Clinical Medicine

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EDITORIAL

Wisdom on Hypertension

This editorial is offered as a practical approach to the understanding and treatment of the underlying causes of hypertension

JAMES M. NORTHINGTON, M.D., *Editor*

Of the enormous output of literature on high blood pressure, much is repetitious, much confusing, much foolish, much pontifical and much false. A Scottish professor, out of his wide experience and from the exercise of good, sound reasoning power, proffers guidance we all would do well to accept.[1] Study and consider carefully this editor's summarization of Gilchrist's teaching.

The employment of conscious or unconscious psychotherapy is of first consequence in the treatment of hypertension. By this means, the doctor establishes a relationship of mutual trust, whereby the patient is reassured and encouraged. The patient is given a sense of tranquility, which in itself can set the blood pressure at lower levels. Tell the patient that such a condition may persist for years without disagreeable happenings, and that it may even subside spontaneously, without serious limitation or permanent crippling. "Most people, and hypertensive patients in particular, feel better, make more headway, and have a lower pressure when under the protective and understanding care of a sympathetic and encouraging adviser. A patient should not be informed bluntly that his blood pressure is worse, and his drug treatment is proving valueless: there is nothing to be gained by comment-

1. Gilchrist, A. R., *Brit. M. J.*, 5000:1011-1016,1956.

ing on isolated readings. The level of the mercury seldom correlates with well-being." Simple facts such as these can profitably be explained to the intelligent patient at the outset of treatment.

"Advice on the better adjustment of the individual to real-life problems comes most appropriately from the patient's own practitioner." For the great majority, simple measures combining firm reassurance and steadfast encouragement form the background of successful therapy. In many cases a routine of long hours of sleep, a short rest at midday, quiet weekends, and a peaceful annual holiday along with the cultivation of a placid, equable temperament, can counteract much of the tension, irritation and fatigue from long hours of work with all its distractions and frustrations. "Even in the most severe grades of hypertension, the blood pressure commonly falls to normal limits in deep sleep, whether physiological or induced by a sedative. Hence the importance of adequate rest and sound sleep in relieving, even for a few hours at a time, the burden thrown on the vascular system. A sedative at bedtime is a valuable remedy *in all stages* of hypertensive disease."

Many hypertensive patients overeat and if this has resulted in corpulence, a diet of 1,500, 1,200, or 1,000 calories, with the cultivation of the habit of restricted indulgence, will do much to ease symptoms and promote a sense of well-being. Weight recorded weekly is more important to patient and doctor than casual blood pressure readings.

In the more severe forms of hypertension, a reduction in sodium intake is of great value. In malignant hypertension nearly half the patients will show a regression in papilledema with restoration of vision after a short period on a diet of less than 200 mg. of sodium a day. Few patients will tolerate such a diet for long, and equally good results can be obtained in hypertensive heart failure, and in hypertension of Grade-3 or -4 severity, with a diet containing 500 mg. of sodium a day. This involves much less hardship. All food, including bread, should be cooked without salt, and no salt should be served with meals.

Anorexia should immediately suggest the salt-depletion syndrome—weakness, nausea, vomiting, and collapse. For this reason it is rarely wise to continue diets with a sodium content of 500 mg. or less for more than two or three consecutive weeks. The dangers of uremia are so great that the addition of small quantities of salt to the diet for a few days at a time is justified every two or three weeks. Strict salt restriction is necessary only in the most severe grades of hypertension. A reduction in sodium intake is of value in itself, and appears to potentiate the ganglion-blocking drugs.

CLASSIFICATION OF MAIN CAUSES

Known causes of hypertension may be arranged into four main groups:

1. *Renal diseases*: acute and chronic glomerular nephritis, chronic pyelonephritis, polycystic kidneys, hydronephritis,

2. *Endocrine disorders*: Cushing's syndrome, pregnancy (affecting renal blood flow), toxemias, phechromocytoma,

3. *Vascular disorders* (affecting renal blood flow): congestive heart failure, periarteritis nodosa, coarctation of the aorta,

4. *Neurological diseases*: certain brain tumors, bulbar poliomyelitis.

All of these account for no more than 30% of all cases of hypertension.

The discovery of an etiological factor may influence therapy, *e.g.*, unilateral pyelonephritis may justify nephrectomy before hypertension has led to damage to the vascular supply of the opposite kidney. Effective treatment for hypertension of Cushing's syndrome, not due to a localized and removable tumor, is either total or subtotal adrenalectomy. In younger people, excision of a coarctation with reconstitution of the aorta can promptly relieve this variety of hypertension. A less common cause is a pheochromocytoma; the hypertension can be completely relieved by early operative removal.

DETERMINATION OF APPROPRIATE THERAPEUTIC PROCEDURES

The number of remedies used in the treatment of hypertensive vascular disease is legion. General measures include: simple psychotherapy; advice regarding a physiological way of life; and instructions regarding weight reduction and restricted sodium intake.

The detection of a precise etiological cause, and its prompt surgical removal, can lead to permanent relief.

In general, the most appropriate therapy, which is usually a combination of different remedies, should be determined more by the patient's vascular state than by the blood pressure readings. For the most part, the retinal picture taken with the state of the heart and kidneys determines treatment.

All patients showing hypertensive retinopathy should be treated intensively as should those without serious retinal changes who have had transient cerebrovascular episodes, attacks of left ventricular failure, or angina. Most patients disabled by severe hypertensive symptoms will also require the more potent hypotensive remedies.

Patients who have no symptoms, or only minor ones, and who present no evidence of serious retinal, cerebral, or cardiac damage, require advice about their mode of life. Only mild hypotensive agents such as rauwolfia should be used.

"Rauwolfia potentiates other hypotensive agents. Rauwolfia, with or without veriloid, and a low-salt diet may keep hypertensive heart failure in check, but more commonly pentolinium and sodium restriction will be required. Rauwolfia alone, or with veriloid, often helps the anginal patient with hypertensive coronary disease."

"Low-sodium diet combined with veriloid is probably safer for cerebrovascular lesions than intensive methonium therapy. For uncomplicated Grade-3 or -4 hypertension, rauwolfia with pentolinium is the treatment of choice."

When uremia develops, no hypotensive drugs are of any value, but in the milder grades of renal impairment, hydralazine (Apresoline) may prove helpful.

For patients incapable of regulating their pentolinium routine, or if the response to the drug is poor, lumbodorsal sympathectomy is indicated provided renal and cardiac functions are reasonably good.

ORIGINAL ARTICLE

The Role of the General Practitioner in Allergy

The basic criteria of allergy should be mastered by the general practitioner, and he should be prepared to cope with allergic emergencies

MAYER A. GREEN, M.D., *Pittsburgh, Pennsylvania*

Four million persons in the United States have asthma or hay fever, according to the National Institute of Health, U.S. Public Health Service. Major allergic manifestations occur in 10 to 15% of the total population.[1] At least one-half of all persons suffer from some form of allergy at one time or another.[2] The increase in clinical allergies parallels the advances in medical and other sciences. Every general practitioner and every specialist should be aware of allergy, able to recognize common allergic manifestations, and capable of managing emergent allergic situations.

1. Ratner, B., & Silberman, D. E., *Ann. Allergy*, 10:1-20,1952.
2. College News Notes, *Ann. Int. Med.*, 44:125,1956.

The American Academy of Allergy and the American College of Allergists have sponsored a sound program of postgraduate orientation courses in conjunction with their annual conventions. In the past several years, the enrollment of thousands of physicians in these courses has attested their need and popularity. Able leaders in education and research in allergy have conducted these teaching programs in various areas throughout the country. The public has demonstrated its awareness and acceptance of allergy. Both national allergy societies have created the American Foundation for Allergic Diseases to further this interest and to stimulate research, im-

prove training in medical schools, extend hospital and clinic facilities, and develop programs for home care and ambulatory management of indigent allergics.[3] The newly established National Institute of Allergy and Infectious Diseases will supplement these services with fundamental research.

The general practitioner should master the basic criteria of allergy. Adequate time should be taken for detailed investigation into the onset and course of the allergic disease. The domestic and occupational environments must be explored for possible inhalant, contact, and emotional factors. The primary or secondary effects of infectious processes should be evaluated, and the patient's response to drugs and the possibility of drug hypersensitivity should be considered.

ALLERGY TESTS

The doctor must recognize the typical allergic mucosal reaction pattern—a pale, boggy and edematous mucosa, the secretion containing abundant eosinophiles. Peripheral blood eosinophiles may be increased. There are various reliable and established allergy testing procedures. Understandable confusion has led to suspicion of these very useful and important procedures.

The skin tests afford, when correlated with accurate historical data, evidence of past, present, or future clinical hypersensitiveness. The test provides only the clue to possible allergic symptoms. There is verification if exposure to the offending agent provokes the allergic reaction, and if withdrawal reduces or eliminates it.

3. Answers to Some Questions About Allergy and the Allergic Diseases, News Release, Am. Found. of Allergic Dis.

There are definite indications for properly supervised trial and elimination diets. Some have been maintained on highly restricted diets for long periods with the ultimate development of serious dehydration and malnutrition. Usually, lists of foods to which a patient reacts positively only further confuse the patient about his allergy. Dietary instructions of importance should be provided by the physician.

The response to drugs such as the antihistamines, sympathetic mimetics, and steroids may be additional presumptive evidence in support of a diagnosis of allergy. Allergy should not be a waste-basket for all vague symptoms of unknown etiology. Many of the failures attributed to allergic management have occurred in conditions which did not meet the criteria for diagnosis.

ALLERGIST CONSULTANTS

There is a successful nation-wide program in use, offering the consultant services of qualified allergists, followed by hyposensitization therapy administered by the general practitioner. This program operates as follows: The allergic patient visits his sympathetic family physician, who is receptive to the diagnosis of allergy, able to provide relief and to judge whether there is a need for further investigative procedures and therapy. The allergist performs the indicated studies and plans the therapeutic program. He forwards to the referring physician a complete report and antigens for specific hyposensitization, with suggestions for their use. The patient continues under the supervision of the allergist through periodic follow-up visits.

A great number of patients have successfully used this service which

is available to all who seek it. The general practitioner must be acquainted with the basic principles of hyposensitization therapy and the peculiarities of the allergic personality. Generally, the results with this program have been satisfactory and gratifying. The occasional unsatisfactory results are usually attributable to failure to adhere to the prescribed dosage schedules; unfamiliarity with hyposensitization techniques; or delegation of responsibility for treatment to office assistants. Every general practitioner should be prepared to cope with the allergic emergencies — serum sickness and like reactions, status asthmaticus, angioedema, and critical organic and systemic manifestations.

SERUM SICKNESS

Antitoxins prepared from horse serum, such as those for diphtheria and tetanus, frequently cause serum sickness. Similar syndromes often follow the use of drugs and antibiotic agents, notably penicillin. Most dramatic is the immediate anaphylactic and potentially fatal type. Most frequent is the delayed variety with its sequence of fever, arthritic and urticarial lesions, lymphadenopathy, and leucocytosis.

Immediate management of these reactions may be life saving. It requires mastery of the use of epinephrine, corticosteroids, and antihistamines. Prevention of these reactions should be the major objective. A carefully taken history may reveal previous sensitization. Such a positive history, followed by specific serum sensitivity reactions to skin and mucosal tests, will greatly reduce the number and severity of the serum and drug reactions. The present widespread use of diphtheria and tetanus toxoids has reduced to a small fraction the number due to horse serum sensitization.

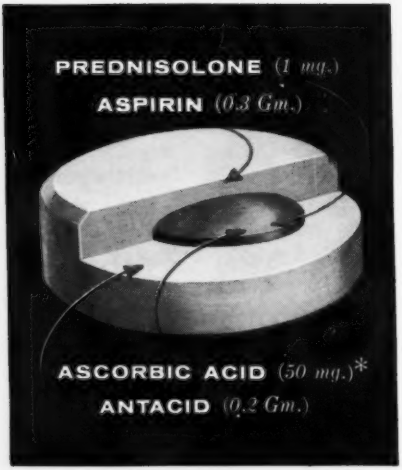
The allergic constitutional reaction resembles the serum sickness pattern. It may follow the use of antigenic extracts employed in allergic surveys and therapy. Here too, the reaction may be immediate and fatal, or delayed. This latter type presents a variety of symptoms consisting of urticaria, rhinorrhea, bronchial asthma, and gastrointestinal disorders. These usually result from the accidental intravenous administration or overdosage of potent antigens.

Immediate management consists of applying a tourniquet above the injection site; and administration of epinephrine; adrenocorticotropic and corticosteroid hormones; antihistamines; oxygen, and sedation. Constant vigilance and alertness are imperative when one uses potent antigenic extracts. Careful inquiry into the degree of local reaction from previously injected antigen will guide future therapy, and will reduce the occurrence of undesirable reactions.

ACUTE ALLERGIC REACTIONS

Status asthmaticus, the state of prolonged, continuous and recalcitrant bronchial asthma, may cause death from asphyxia or cardiac failure. Immediate hospitalization is urgently indicated. In the hospital, further measures are available: bronchoscopic aspiration of obstructing mucus; bronchodilating drugs, oxygen, expectorants, aerosol therapy; hormones; restoration of fluid balances; and optimal sedation. Morphine and atropine and their derivatives are generally contraindicated.

Angioedema may involve the



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larynx and the glottis so as to necessitate an emergency tracheotomy.

Practically any organ or system may become involved in violent allergic reactions assuming critical proportions. Reactions may appear as hemorrhages, convulsions and other cerebral reactions, and acute abdominal episodes simulating the acute surgical disease.

The antihistaminic drugs and the adrenocorticotropic and corticosteroid hormones are valuable additions to the armamentarium for relief of allergic symptoms. However, they remain only as adjuvants to the time-tested hyposensitization therapy. Sole dependence on these drugs and steroid hormone preparations, to the exclusion or postponement of established methods of antiallergic management, permits the development of irreversible tissue changes.

The general practitioner must be familiar with the indications and possible complications inherent in the use of these important agents. He should understand the features of a few antihistamines, such as the short acting, sustained release, repeat action, and sedative varieties. The hazards of the prolonged use of steriod hormones should be well known. The primary indication for steroids is in the critical emergency and refractory allergic conditions, requiring short periods of such therapy.

GENERAL OBSERVATIONS

The vast majority of adequately studied and treated patients with hay fever achieves satisfactory relief in the attacks, and satisfactory prevention or reduction in the number of major complications: bronchial asthma, nasal polyposis, and sinusitis. Indifferent or inadequate results are usually due to failure to individualize the therapy; use of impotent antigenic extracts; under- or over-treatment; failure to recognize and control the allied offenders, as other inhalants and foods; and failure to recognize and control associated nasosinus involvement.

In bronchial asthma, the complete allergic approach today provides more consistently reliable results than was hitherto possible. This approach encompasses, in addition to the standard allergic investigative and therapeutic procedures, attention to psychic and infectious components.

Allergic eczema often manifests itself in early infancy. Antiallergic measures at that time will produce the best immediate results, as well as prophylaxis against the development of future allergies.

EARLY ALLERGIC MANAGEMENT

Allergic management has been postponed to the patient's detriment by statements such as: "The child will outgrow his allergy"; "The tests are painful"; "Let's not emotionally traumatize the child." A program of complete allergic management should be introduced as soon as a diagnosis of allergy is established. Too often the infant with mild eczema develops into the child with severe asthma. The earlier the antiallergic management, the better the results.

Contrary to popular opinion, pregnancy cannot be relied upon to produce subsidence of an active allergy. The reverse is often true. Latent allergy may manifest itself for the first time during pregnancy. Therefore, pregnancy indicates allergic supervision in patients with potential or active allergy. This supervi-

sion will be rewarding in comfort for the prospective mother and in delay or prevention of allergy in the offspring.

Allergic patients are often told to seek a change of environment. This could be the response of a physician with a refractory, allergic problem. This drastic advice may be given after consideration of all the local offending factors producing the allergy, and the possibilities of their avoidance in the proposed new location. A patient may be sent great distances when he needs only to change his occupation, move down the street, discard an offending feather pillow, or restrict the dog to the outdoors. The Southwest has been a favored area for these pilgrimages. Allergists in those havens have repeatedly implored physicians not to point all troublesome asthmatics in their direction. Too often the patients have remained the same in the new location, with the extra disadvantages of separation from family and friends, increased expenses, and abandonment of their jobs and security.

SUMMARY

There is an obvious need for every doctor of medicine to familiarize himself with the diseases and problems of allergy.

Instruction in allergy is progressing in many medical schools; still there is much to be desired. Supplementary instruction has been given for the past several years by the American Academy of Allergy and the American College of Allergists.

Criteria necessary for the diagnosis of allergy are reviewed. These include accurate and detailed history-taking; description and recognition of typical allergic mucosa; properly performed and interpreted testing procedures, and analysis of the controversial aspects of these tests; and response to drugs as presumptive evidence of allergy.

The general practitioner must be aware of allergy, able to recognize its presence, provide relief, and determine the need for allergic investigation. The mechanics of a successful program for treatment of the allergic patient jointly by the consultant allergist and the general practitioner are presented. The antihistamines and steroid hormones are appraised as to indications and limitations.

Pertinent comments based on personal observations are presented. These concern the major allergies—hay fever, bronchial asthma, and eczema. The need is emphasized for early introduction of programs of allergic management when indicated. The reckless referral of patients with chronic refractory asthma to distant places is deplored.

ORIGINAL ARTICLE

Cancer of the Genitourinary Tract

The two major signposts from which genitourinary cancer can be surveyed are bloody urine and a comprehensive understanding of the behavior of prostatic cancer

PETER L. SCARDINO, M.D., *Savannah, Georgia*

A consideration of bloody urine is important if one hopes to cure any cancer which causes the "blood-bath sign."[1] The passing of bloody urine is a common occurrence when aging men have benign prostatic enlargement, but it is not common in early prostatic cancer. Gross hematuria in a young man is caused by infection or calculi of the urinary tract. The passing of bloody urine by a female is most often due to invasion of the bladder by the colon bacillus. However, regardless of the age of the patient or the likelihood of the cause of bleeding being something other than tumor, cystoscopic examination and x-ray studies of the upper urinary tract must be made if the mortality rates from cancer of the genitourinary tract are to be reduced.

BLADDER TUMORS

The fact that little has been accomplished in the treatment of bladder tumors is due, at least partly to the delay between the first sign of blood and the first cystoscopic study. Cancer of the bladder limited to the mucosa can be eradicated, in nearly 100% of instances, by proper therapy. Once the lesion has penetrated into or beyond the muscularis, the chance of cure by any form of ther-

1. Scardino, P. L., *J. Kentucky M. Soc.*, 54:418, 1956.

apy is slight. Marshall and his coworkers suggest that radical cystectomy with urinary stream diversion offers the best chance of cure of cancer of the bladder which has invaded the bladder musculature.[2] The application of radioactive substances either directly or indirectly has met with some success.[3]

UPPER URINARY TRACT

For all practical purposes, benign tumors of the kidney and ureter do not exist. Hypernephroma, the most frequently encountered parenchymal renal tumor, is silent until invasion or rupture of a vessel produces hematuria. All too often the time for cure has passed. However, if the preoperative diagnosis is renal tumor, nephrectomy should consist of extirpation of the kidney with Gerota's fascia intact.

Papillary lesions are more common than epidermoid or squamous lesions in the renal collecting system. These transitional-cell lesions grow more slowly, invade and metastasize later, and often can be cured if the kidney, ureter and a cuff of the bladder are removed en bloc.

Unilateral, unexplained hematuria is a urological nightmare. Recent reports would lead one to believe that bloody urine is a sign of "lesions which aren't there," more often than of malignant lesions "which are there." Necrotizing papillitis and other ill-defined lesions may cause hematuria. However, an individual who persistently bleeds unilaterally is safer without the bleeding kidney than with it.

CANCER OF THE PROSTATE

Of all malignant tumors, none has made a more encouraging recent response to therapy than has cancer of the prostate. If every man who is 40 years of age were to undergo an adequate digital palpation of the prostate gland, the deaths from this malignancy alone could be reduced by more than one-half. Usually cancer of the prostate has a slow growth. In 90% of the cases it manifests itself first as a small area of stony hardness in an area which can be readily palpated by the finger. The operative mortality is less than that from surgery on the non-cancerous prostate gland. Curable cancer of the prostate never causes hematuria. If the prostatic cancer has reached the incurable stage, the best therapy is the combined use of estrogens and bilateral orchiectomy.[4]

TUMORS OF THE TESTICLE

Testicular tumors are not uncommon in the male between the ages of 20 and 34. Essentially they are of two kinds—the curable and the incurable. The pathologist classifies them as seminomas, embryonal carcinomas, chorio-epitheliomas and teratomas. A non-cystic mass which fails to transilluminate, usually is not painful; and is confined to the testis is a testicular tumor until proved otherwise. To prove the diagnosis, an orchiectomy is necessary, and this should be done in any questionable case. It is folly to attempt biopsy, open or otherwise.

Seminomas respond to simple orchiectomy and removal of 10 cm. of the spermatic cord, plus irradiation of the retroperitoneal lymphnodes. Embryonal carcinoma and teratoma require orchiectomy and radical retroperitoneal node dissection. The effectiveness of postoperative high voltage irradiation in these

2. Marshall, V. F., *Cancer*, 9:543,1956.
3. Schulte, J. W., et al., *J. Urol.*, 67:916,1952.
4. Nesbit, R. M., et al., *J.A.M.A.*, 143:1317,1950.

two types remains debatable. Chorio-epithelioma is the most malignant of all testicular tumors. No five-year survivals have been reported. Simple orchiectomy remains the procedure of choice.

CANCER OF THE PENIS

Cancer of the penis is a curable disease if it is adequately treated when first seen. Even after lymphnode metastases, ten-year cures are possible if, in addition to amputation proximal to the lesion, a radical inguinal, femoral and pelvic lymphnode dissection is performed.

Cancer of the urethra in male or female is apt to be a fulminating lesion. Although excision of the local lesion has been accomplished and reasonable cure rates have been reported, the rule is that total excision of the urethra with urinary stream diversion gives more satisfactory results.

SUMMARY AND CONCLUSIONS

Cancer of the kidney, renal pelvis, ureter and bladder is usually heralded by the "blood-bath sign," and must be considered the causes of gross hematuria until proven otherwise. While benign prostatic hypertrophy, prostatic calculi, and urolithiasis are frequent contributors to the "blood-bath sign," curable cancer of the prostate is not. Prostatic cancer can be cured more frequently if the general practitioner and the internist will perform a careful digital rectal examination on every male patient over 40 years of age.

Unlike other cancers of the genitourinary tract, prostatic cancer can often be satisfactorily managed after it has metastasized. The combined use of estrogenic therapy and orchiectomy is a most effective method. Of the testicular tumors, seminomas are the most common and respond to orchiectomy and deep x-ray therapy. Other forms of testicular cancer will require both orchiectomy, radical lymphnode dissection and postoperative irradiation.

Cancer of the penis will require excision of all involved penile tissue as well as excision of the involved lymphnode system. Cancer of the urethra is often a more fulminating lesion and will require urethrectomy and often diversion of the urinary stream.

Life Expectation

In 1955, the life expectation at five years of age was 70.1 years for white women, and 63.9 years for white men. The margin in favor of women decreases with advance in age, but it amounts to 2½ years at age 65, when the life expectation is 15.1 years for white women and 12.5 years for white men.

The life expectation at age 5 for Negro men was nearly two years less than for white men; for women the disparity was 4½ years.

For nearly two generations, the average length of life has been increasing more rapidly among wage earners and their families than among the general population of the United States. In 1909, the average lifetime of the Company's industrial policyholders was six years less than that for the population as a whole. At present the two groups are on a par.

Statistical Bull., Metropolitan Life Ins. Co., 37:1-3, 1956.

AMERICAN STOMACH

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ORIGINAL ARTICLE

The Comparative Effectiveness of Cocaine and Dimethisoquin Ointments in Anal Pain

Dimethisoquin ointment was found to be as effective as cocaine ointment for the amelioration of anal pain in 175 patients; no evidence of toxicity or sensitivity

BENJAMIN HASKELL, M.D.,* and GERALD MARKS, M.D.,*
Philadelphia, Pennsylvania

There is a constant search for anesthetics which can be applied locally and safely to the anal and perianal regions. The large number of preparations available suggest that no one of them satisfies all the requirements for a suitable preparation. Essentially these requirements are:

1. Effectiveness.
2. Ease of application.
3. Lack of sensitization.
4. Absence of toxicity.
5. Economy.

*Section on Proctology, Jefferson Medical College and Hospital.

This report summarizes a study designed to evaluate an ointment preparation of a recently developed topical anesthetic, 1-(B-dimethylaminoethoxy)-3-n-butylisoquinoline hydrochloride.*

COCAINE OINTMENT AS CONTROL

Cocaine Alkaloid ointment, 1%, was selected as a control because of its long-recognized effectiveness. The same ointment base was employed for both preparations. The patients who participated were of two

*Dimethisoquin hydrochloride, supplied as "Quotane," Smith, Kline and French Laboratories, Philadelphia.

groups: post-operative ano-rectal surgical patients and non-operative patients with painful anal lesions. The first group included all surgical cases in which the wounds remained open; the second principally patients with anal fissures, but also those with anal ulcers, abrasions, anusitis and cryptitis. There was no attempt at patient selection beyond the exclusion of those considered uncooperative or incapable of complying with the prescribed regimen.

Both groups of patients were provided with each of the ointments under study, in similar tubes distinguishable only by a letter designation and the color of the label. The patients were instructed to use them alternately and record on a prepared questionnaire the number of applications, the time necessary to provide relief, the degree of relief ("none," "moderate," or "complete") the duration of relief, the need for other analgesic medication, and any adverse effects. Patients participating numbered 175. In some instances, the answers were incomplete. However, there was sufficient data recorded to provide a fairly accurate comparison of the effectiveness of these ointments.

COMPARATIVE EFFECTIVENESS

The comparison of the two ointments depended entirely on the subjective response. This method of clinical evaluation has obvious limitations. Because of these, too much significance should not be attached to slight variations in the tabulated figures. Neither ointment provided sufficient relief to eliminate the need for narcotics in the immediate post-operative period. In the post-operative group, dimethisoquin ointment provided partial to complete relief in 78 of 100 patients while cocaine ointment provided relief in 67. Cocaine ointment provided complete relief in 7 more patients than did dimethisoquin ointment, however, it also produced a higher incidence (16% vs. 6%) of adverse effects, chiefly mild burning or itching. There were no instances of sensitivity in either group.

In the majority of non-operative patients with painful anal lesions, both ointments provided relief. Complete relief was infrequent, but narcotics were almost never necessary. Dimethisoquin ointment produced moderate to complete relief in 91% of the study group. No sensitivity or side effects were encountered.

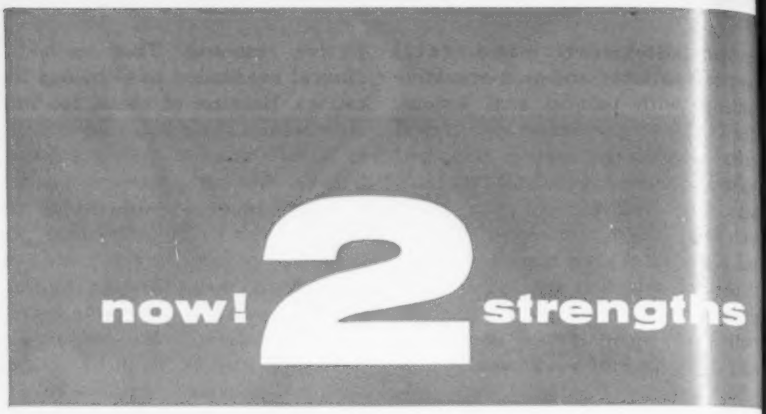
Cocaine ointment was only slightly less effective (moderate to complete relief in 87% of patients), but side effects were encountered in 5% of the group. No sensitivity reactions occurred.

Athlete's Foot

Two normal-appearing sites on the feet of each of seven persons with, and of 15 persons without, fungus infection of feet were exposed to masses of fungi. In 12 of the 22 fungi were not seen or recovered on culture after 24 hours. In only one patient, it appeared after 15 days, after rubbing in of fungus-containing material.

The foot skin of most persons has a remarkable capacity to rapidly rid itself of, or kill, pathogenic fungi.

Baer, R. L., et al., *J. Invest. Dermat.*, 24:619-622, 1955.



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ORIGINAL ARTICLE

A New Agent in the Management of Colic of Early Infancy

A new liquid anti-colic preparation with an anticholinergic effect was tested on 123 private practice patients with colic of early infancy

MORTEN B. ANDELMAN, M.D., LESTER A. NATHAN, M.D., LAWRENCE BRESLOW, M.D., and HAROLD GERBER, M.D., *Chicago, Illinois.*

The colic of early infancy remains a subject of controversy, its etiology remains in the realm of hypothesis. Prolonged episodes of vigorous crying presumed to be caused by severe abdominal pain are commonly observed in the first and second months of life, may last through the third, and even through the sixth month of life. Attendant symptoms include flushing of the face, distention of the abdomen, and contraction of arms and legs. Giving feedings at shorter intervals may pacify these infants, but this change may cause increase of flatulence and number of stools.

The 4 theories which seem of greatest current popularity are:[1-4]

1. Gastrointestinal allergy,
2. Autonomic nervous system imbalance,
3. Qualitative overfeeding (e. g., excess carbohydrate),
4. Underfeeding (with strong hunger contractions).

1. Mitchell, A. G., Nelson, V. E., Textbook of Pediatrics, 5th Ed., 147-418. W. B. Saunders, 1950.
2. Spock, B., *Psychos. Med.*, 6,1944.
3. Park-White, J., *Am. J. Dis. of Child.*, 26,1923.
4. Brennemans, J., *Prac. of Ped.*, 1:25-30.

To these may be added environmental disturbance. Certainly many factors enter into the causation of most cases. Whatever the causation, obviously the primary concern is to afford relief. Warm water enemas, hot water bottles on the abdomen, change of formula, carminatives — few, many or all — have been used with varying success. Reassurance of the mother that, "It is somewhat painful but there is no permanent harm, hence nothing to worry about," is only acceptable for the few stoic parents.

There is a tendency to prescribe sedatives and antispasmodics which act both on the central and autonomic nervous systems. Frequently, however, these efforts are unsuited because of side-effects. Drowsiness, flushing, often with fever, tachycardia, gastrointestinal upset, and constipation have commonly been observed during the use of many antispasmodic and sedative preparations.

Considering the fact that autonomic nervous system imbalance is possibly the greatest factor, a critical evaluation of a new anti-colic agent was undertaken. The compound used was N-ethyl-3-piperidyl-benzilate metho-bromide*, described as equal to atropine in its anticholinergic effect,[5] but not inducing untoward effects in highly effective therapeutic doses.[6] Pediatric Piptal® is a palatable liquid medication, each cc. of which contains 4 mg. of Piptal and 6 mg. (0.1 gr.) of phenobarbital.

METHOD

The study was based upon observations in private practice. All infants were placed on a true demand feeding regimen. Each infant remained on the same formula and the supplementary foods noted on the first examination in the office. Colic was graded as severe or moderate, based upon the history and office observation. Results were charted as follows:

1. Excellent improvement—establishment of normal feeding and related health patterns,

2. Good improvement—establishment of nearly normal feeding and related health patterns (at least sufficient to fully allay the anxiety of the parents),

3. Slight improvement—observable improvement, symptoms milder than prior to therapy,

4. No improvement.

In all cases it was advised that the infant be fed whenever it cried for more than a few seconds, regardless of frequency or quantity of feedings. Fifteen minutes before each feeding, Pediatric Piptal, 0.5 cc., was administered by dropper by mouth. In a few severe cases, the dose was increased to 1.0 cc. All together, 121 cases were observed in the private practices of 4 Chicago pediatricians. In 94 of these cases colic was the sole symptom. In 11 cases, the main symptom was "spitting," in addition to mild colic. There was moderate to mild colic in 17 cases, with "spitting" and vomiting. In 1 case, vomiting was the chief complaint, with only mild colic.

Fifteen cases were selected at random for x-ray evidence of the efficacy of this preparation.[7] Each infant was given a barium meal, x-ray pictures were taken immediately after feeding and at 20 minute and 2 hour intervals, both before and

5. Chen, J. Y. P., *Fed. Proc.*, 13:343,1954.
6. Riese, J. A., *Am. J. of Gastroenter.*, 23:223,1955.
*Piptal®, Lakeside Laboratories, Milwaukee, Wisc.

7. Levin, H., *Am. J. Dis. of Child.*, 28,1924.

after the administration of Pediatric Piptal. An interval of 2 days was allowed between x-ray studies with and without the drug.

RESULTS

All 94 cases of colic alone showed improvement—fewer feedings, normal weight gains and relief of paroxysms with less crying; 56 (59.6%) showed excellent improvement, another 31 cases (33.0%) good, and the remaining 7 cases (7.4%) showed slight but significant improvement. Of the 58 cases with severe colic, 35 showed excellent, 21 good, and only 2 slight improvement. Of the 36 cases of moderate colic, 21 showed excellent, 10 good, and the remaining 5 showed slight improvement.

Since in all of the cases the mother was to give a bottle at each excessive crying episode, we noted the change in the number of feedings in a 24 hour period. Each infant approached a normal feeding schedule for his age, 4-5 feedings in 24 hours, and additional foods were added as needed. Prior to therapy, the number of feedings in severe cases was 7 or 8, and those with moderate colic 6 or 7. Within 24 to 48 hours the number of feedings in cases showing good improvement was reduced to 4 or 5, in the cases showing slight improvement to 5 or 6. In 1 case reduction was from 12 to 5.

In 18 of 29 cases (62.1%) of "spitting," vomiting with "spitting," and vomiting alone, plus mild colic, there was excellent improvement. In 3 cases in this group (10.3%) there was evident relief of 1 or the other symptom, in the remaining 8 cases (27.6%) there was no improvement. All of the infants continued to gain weight normally.

In this group no evidence of toxicity was observed. The only side-effects noted were some tenesmus, with a mild constipation in 6 cases, and flushing of the skin in 2 cases. Both of these side-effects disappeared upon reduction in the dosage of Pediatric Piptal from 1.0 cc. to 0.5 cc. per dose. The drug was continued without harmful effects for 3 months and in some cases up to 6 months.

SUMMARY

1. Pediatric Piptal can be used effectively in the management of the colic of early infancy.

2. Given orally by dropper in doses of 0.5 cc. (in some severe cases, 1.0 cc.) 15 minutes before each feeding on a *demand feeding schedule*, it will relieve colic with or without vomiting or "spitting."

3. Eighty seven of 94 cases (92.6%) showed good to excellent clinical response. The remaining cases (7.4%) improved slightly.

4. In 18 of 29 cases (62.1%) in which "spitting" with vomiting, or vomiting alone was observed, there was sharp reduction or complete cessation of "spitting" and vomiting. Three additional cases in the group (10.3%) were partially relieved, the remaining 8 cases (27.6%) showed no clinical improvement.

5. Pediatric Piptal therapy was continued for 3 to 6 months. No harmful effects were observed either during or after therapy. In 6 of the 123 cases in this group (4.8%) constipation with tenesmus was observed, and in 2 instances there was flushing without fever. In all these cases, a reduction in dose from 1.0 cc. to 0.5 cc. according to the de-

mand schedule indicated, eliminated these side effects without loss in therapeutic efficacy. In no case was it necessary to withdraw the drug.

CONCLUSIONS

Pediatric Piptal appears to be a safe, highly effective and well-tolerated medication for the treatment of the colic of early infancy, and related functional gastrointestinal disorders. It usually produces relief within 24 to 48 hours, In every case in which improvement was observed it occurred in no more than 4 days. It may be used without harmful effect throughout the entire period of distress.

Changing Blood Pressure in Aortic Insufficiency

Peripheral circulatory phenomena of aortic insufficiency diminished in intensity in all patients during failure. These observations were explicable as follows: patients with predominant aortic insufficiency show peripheral vasodilation, which is replaced by vasoconstriction when failure of the left ventricle develops.

The clinical value of serially recorded blood pressure in patients with aortic insufficiency is emphasized as a clue to incipient cardiac failure. The appearance of a narrowing pulse pressure should prompt immediate intensification of medical control and further attempts at surgical correction, because of the grave prognosis if congestive heart failure becomes established in aortic insufficiency.

Gorlin, R., et al., *New England J. Med.*, 255:77-79,1956.

ORIGINAL ARTICLE

Prevention and Treatment of Anaphylactic Shock with Particular Reference to Penicillin

Anaphylactic death occurs quickly, and only the rapidly effective measures should be used in the earliest phase; epinephrine is recommended

ALAN G. CAZORT, M.D. and THOMAS G. JOHNSTON, M.D.,
Little Rock, Arkansas

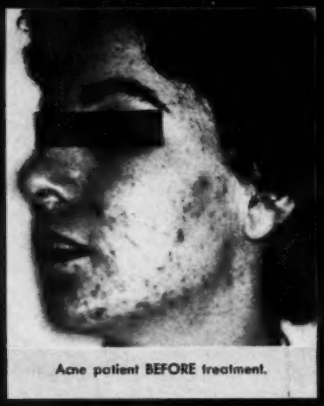
At the 1954 meeting of the Southwest Allergy Forum, the question was asked as to how many members had personal knowledge of anaphylactic shock from penicillin, how many deaths resulted, and the number of these cases that were reported in medical literature. Twelve had knowledge of reactions, and four had knowledge of fatal reactions. No case had been reported. Some comments on the prevention and treatment of these reactions appear to be in order. The majority of such accidents are preventable.

We refer only to the immediate reaction, anaphylactic in character, which occurs within minutes after the drug is administered. The delayed, serum-sickness type is not predictable, but it usually is not dangerous.

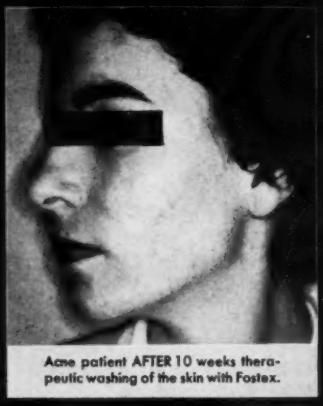
SCRATCH TESTS

There is considerable evidence that the majority, if not all such reactions, can be avoided by making a simple scratch test through a drop of the preparation to be used. If this causes a definite wheal, with erythema and usually with itching, within fifteen minutes, penicillin

IN ACNE



Acne patient BEFORE treatment.



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Fostex Cream 4.5 oz. jar. Fostex Cake in bar form.

Fostex does not contain selenium.

*Sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate, sodium dioctyl sulfosuccinate

Write for samples and literature.

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Division of Foster-Milburn Co. Buffalo 13, New York

should not be given. During the past few years, we have made scratch tests routinely with 200,000 units of soluble penicillin in 1 cc. of 50% each of glycerol and saline. We have observed only eight indisputably positive reactions—six of these on patients known to have had anaphylactic reactions who were called in for this test. Thus, in over 3,000 routine tests, we have observed only two positive skin reactions. One of these reactors told us she knew penicillin would be dangerous as she had had to stop helping her husband give it to his cattle. Merely handling the syringes, she told us, would make her "smother and swell up."

SYSTEMIC REACTIONS

Each of these patients was tested also with a depot type of penicillin, usually with the preparation which had caused the shock. In each case, the wheal was comparable to that caused by the soluble type, measuring more than 15 millimeters perpendicular to the scratch. The solution does not seem to lose anaphylactogenic property with age. This would indicate that there is no qualitative relationship to its antibiotic potency. On one patient, the test was positive three years after the shock.

We obtained negative reactions on two cases purported to have had anaphylactic reaction. In neither case was there dyspnea, pruritus or erythema. Both were characterized by pallor and immediate but transitory unconsciousness, one by nausea. We believe these were simple syncope. We saw neither patient during or immediately after the supposed reaction.

The positive skin reactors had all had penicillin, usually several times, previously.

We have knowledge of several other cases which we did not see. Dr. William Browning, of Shreveport, observed a positive reaction to penicillin by scratch test in one case. He warned this woman and called her family doctor. Some time later the patient had penicillin in another doctor's office and died on the street outside.

TREATMENT

The advent of antihistaminic drugs, and later the corticosteroids, seems to have made us forget that epinephrine (adrenalin) is the quickest, the most dependable, and the most effective antihistaminic. It counteracts the immediate and most dangerous aspects of atopic or anaphylactic shock more quickly than steroids. It can be administered more quickly than any intravenous solution, and it is safe. Too often the physician has been too slow or overcautious in the use of epinephrine. Antihistamines are sometimes given by vein before epinephrine is administered. A recent report (New York State Journal of Medicine for June 1, 1956) describes a case in which ephedrine and aminophylline were given by vein approximately ten minutes before epinephrine was used. A recent letter of the American Correspondence Society of Allergists advocates this solution intravenously after not more than 0.50 cc. of 1-1,000 epinephrine has been given subcutaneously. We are somewhat critical of using a vasodilator, such as aminophylline, in any condition characterized by already dangerous vasodilation.

IMMEDIATE TREATMENT

For 25 years one of us has been daily expecting, and too frequently

seeing, systemic atopic (allergic) reactions. These are identical symptomatically with anaphylactic reactions, and the treatment is the same. We feel that a lapse of 20 seconds between the recognition of the condition and the administration of epinephrine is longer than is proper and necessary. If the reaction is prompt and appears to be developing rapidly, we do not hesitate to give a full cc. We aborted one reaction to Neo-Penil by the prompt use of epinephrine. The patient walked from the office a short time later with no further trouble. This woman is not included in the cases we considered near-fatal, or even severe. We did have one near-fatal case because of our carelessness. This man had received many "courses" of penicillin for recurrent acute upper respiratory infections, which would otherwise have sent him to the hospital for two or three weeks. On this day, he returned after having been absent for several months. He was given penicillin and left alone in a room. Some five minutes later, a nurse called for help. The patient was slumped on the floor, cyanotic and pulseless. He made no attempt to breathe. Epinephrine, artificial respiration, oxygen and prayer were used. The patient survived and later permitted us to make a scratch test. We give considerable credit to artificial respiration when breathing has ceased.

A colleague recently gave one cc. of epinephrine 1-1,000 slowly into the vein of his partner who was apparently moribund from ant stings. He called us thirty minutes later. The patient was breathing and had a good pulse. We congratulated the attending physician for good judgment which we might not have had the courage to use. Possibly our results would not have been so good.

We follow epinephrine with antihistaminics and corticosteroids, but we have even had to supplement this with repeated doses of epinephrine.

SUMMARY

The immediate anaphylactic reaction from penicillin is usually preventable by a simple scratch test on the skin through a drop of the preparation to be used.

We seriously question the wisdom of giving any vasodilator in anaphylactic or severe atopic shock.

Epinephrine, aqueous 1-1000, is our quickest and most effective drug with which to combat the early and dangerous stage.

ORIGINAL ARTICLE

Placenta Previa

One of the most serious complications of pregnancy is placenta previa; if untreated, it may result in a 35% maternal mortality rate

WILMER C. EDWARDS, M.D., *Richland Center, Wisconsin*

Any uterine hemorrhage which occurs during the last trimester of pregnancy is generally due to a placenta previa, and it should be diagnosed as such until proved otherwise. Placenta previa is one of the most serious complications of pregnancy. If untreated, it may cause 35% maternal mortality. Painless bleeding comes on suddenly, usually in an apparently healthy pregnant woman. Frequently this disorder occurs at night, wakening the patient. As a rule, the first episode of bleeding subsides shortly, but there will be more hemorrhages which follow soon thereafter. If it is a marginal placenta previa, the bleeding may not be severe; if it is complete, the hemorrhage is ordinarily very profuse. If the cervix is dilated enough to admit a finger, then one can feel the placenta when a vaginal examination is made. Always remember to use great care, for one can cause a severe hemorrhage by such an examination.

Premature separation of the placenta, either partial or complete, may be confused with placenta previa. This is the reason why vaginal examination may be necessary to differentiate between the two conditions. In my rural practice with over 4,000 deliveries, marginal placenta previa occurred in about 2% of the cases, complete placenta previa once in a thousand deliveries.

TREATMENT

Marginal Placenta Previa. No attempt should be made in the home to treat any severe uterine hemorrhage which occurs in the last trimester of pregnancy. Rather, the patient should be brought to a hospital immediately, preferably in an ambulance. Only then is one in a position to treat immediately such severe hemorrhage. The blood of the patient should be typed and crossmatched, and blood made available for immediate transfusion, if needed. If the hemorrhage is not severe and the patient's general condition is good, then it is best to keep her under observation for a time, because nearly all of these cases will begin labor shortly. If the cervix is dilated somewhat, and the placenta previa is marginal, so that the membranes can be felt, then the membranes should be ruptured by grasping them with a forceps and carefully pulling a hole through them. This will start active labor and allow the fetal head to settle down and act as a tampon to stop the bleeding. Care should be taken to avoid too rapid dilation of the cervix which may cause a laceration, for the cervix is extremely vascular with a low implantation of the placenta, and postpartum hemorrhage may be very severe.

Complete Placenta Previa. In such cases, the cervix is long or thick, and one or more episodes of profuse bleeding have occurred; the best chance for saving mother and baby is to do an *immediate* low cesarean section.

One may have to go through the placenta to reach the baby and so the work must be done rapidly. One cubic centimeter of posterior pituitary extract is injected into the uterus as soon as the baby is delivered. The placenta is removed immediately, and a hot laparatomy pad is placed on the site of removal.

If the patient has lost much blood before the operation, a transfusion of whole blood is started before beginning the operation. Other transfusions are given as needed to replace blood loss as soon as the patient is returned to her room. If blood is not available immediately and the patient is in shock, she should be given 5% glucose in normal saline solution intravenously until blood can be obtained.

Antibiotic-Resistant Bacteria and Respiratory Infections

Sufficient evidence exists that the vast majority of respiratory infections respond adequately to penicillin and that the use of excessively large doses of penicillin, the routine employment of broad-spectrum antibiotics, or the injudicious use of certain combinations of antibiotics not only may increase the likelihood of antibiotic-resistant respiratory tract infections, but may lessen the effectiveness of the therapy of the initial infection.

The necessity for making frequent cultures of the respiratory tract is implicit, for the appearance of these resistant species and the determination of their antibiotic sensitivities is of the greatest urgency in effecting a cure of the superinfection.

Editorial, *J. Oklahoma M. A.*, 49:245-246,1956.

ORIGINAL ARTICLE

Treatment of Diabetes with Sulfonylureas

A new approach to the study of carbohydrate metabolism and the treatment of diabetes with instances of its successes and of its failures analysed

HOWARD M. HACKEDORN, M.D., *Seattle, Washington*

Oral hypoglycemic agents which control the mild, stable type of diabetes have attracted the interest of physicians since the reports from Germany of Franke and Fuchs, in 1955.[1] These drugs are sulfonylureas, related to sulfanilamide in chemical structure. They are effective in certain patients whose diabetes occurs after forty years of age, is of short duration, and requires only small doses of insulin.

Patients who fulfill the criteria listed by Cox *et al.*[2] will generally have quite a satisfactory response:

1. The disease develops after the age of 40 years.
2. The duration of the disease is less than 5 years.
3. The need for insulin therapy has been less than one year.
4. The daily insulin dosage has been less than 30 units.
5. The patient is an endomorphic type.
6. There is no severe cardio-vascular-renal complication.

Obviously this group of patients has a mild form of diabetes in which insulin requirements can be changed by weight loss and dietary regimen, so that the necessity for the drug and its effectiveness are difficult to assess.

Treatment usually begins with 3.0 gm. before breakfast the first day,

1. Franke, H., & Fuchs, J., *Deutsche med. Wchnschr.*, 80:1449-1452,1955.
2. Cox, R. W., *Diabetes*, 5:358-365,1956.

then 2.0 gm. the second day, and 1.0 to 2.0 gm. daily thereafter. The dose may be divided and given before breakfast and lunch, and may be reduced to 0.5 gm. daily. The drug is quickly absorbed, and 3.0 gm. produces an effective blood concentration (determined as free sulfanilamide) of 10 to 15 mg. percent in 30 minutes, which persists for six to seven hours. The urinary excretion is slow, so that satisfactory blood levels can be achieved at maintenance doses of 1.0 gm. per day. If there is persistent hyperglycemia with daily doses of 1.5 to 3.0 gm., the drug will not prove effective in the management of that diabetic patient. Although periods of two to six weeks occur when no medication is necessary, the maintenance dose should be continued indefinitely.

In young patients with the juvenile type of diabetes, the drug has not been effective, and this supports the hypothesis that functioning insulin-producing pancreas must be present for hypoglycemic action. All investigators agree that sulfonylurea therapy is not effective in treating acidosis, and is unsuitable for use in emergencies. It is, in this respect, not an insulin substitute.

REACTIONS

Toxic reactions have occurred from both preparations, tolbutamide showing 1% in 4000 cases reported in Germany[3] and 1.3% of 1018 carefully followed cases in this country.[4] Carbutamide had an incidence of 5.3% toxic reactions with 8000 carefully studied cases.[5] The reactions with tolbutamide included leukopenia, urticuria, slight gastrointestinal symptoms and incompatability with alcohol. With carbutamide, the reactions were more frequent and severe. They included:

1. Hypersensitive reactions, involving the blood with leukopenia and anemia.

2. Skin rashes, purpura, and exfoliation.

3. Vascular reactions, including interstitial myocarditis. In addition there was drug fever and a syndrome comprised of malaise, lethargy, frequently accompanied by nausea and vomiting. Because of the high incidence of reactions, and because carbutamide is a drug of convenience, rather than of necessity, the widespread clinical evaluation being conducted throughout Canada and the United States has recently been suspended.[5]

The common factor necessary for the hypoglycemic effect is the presence of sufficient islet tissue to produce a certain amount of insulin, or the presence of exogenous insulin. Loubatieres[6] initially suggested a stimulation of the beta cells of the Islets of Langerhans.

Bertram *et al.*[7] demonstrated damage to the alpha cells of the islets of Langerhans, which are the source of glucagon. Since glucagon is a potent hyperglycemic agent, similar in this effect to epinephrine, the loss of the hyperglycemic response of glucagon would enhance the hypoglycemic effect of insulin.

There is an effect on hepatic enzymes, and those initially studied are in the metabolic path of glycolysis and glucose degredation. Hawkins *et al.*[8] and Tyberghein *et al.*[9] have

3. O'Donovan, C. J., Personal Communication.
4. Williams, R. H., Personal Communication.
5. Kirtley, W. R., Personal Communication.
6. Loubatieres, A., *Compt. rend. Soc. de biol.*, 138:830-831,1944.
7. Bertram, F., et al., Deutsch. med. Wschnscher. 80:145-160,1955.
8. Hawkins, R. D., et al., *Canad. M. A. J.*, 74:972-974,1956.
9. Tyberghein, J. M., et al., To be published.

demonstrated a decrease in glucose-6-phosphatase activity in liver slices of sulfonylurea-treated rats. Vaughn[10] showed an effect on the phosphorylase enzyme system. This enzyme is the first, and limiting, step in the conversion of glycogen to glucose. It is the site for epinephrine (and glucagon) action in raising the blood sugar at the expense of liver glycogen. Carbutamide prevents the glycolysis and hyperglycemic effect of epinephrine.

In developing the hypothesis that insulin insufficiency of most diabetic patients is due to an increase in the rate of destruction by the tissues, Mirsky[11] measured the acute action of tolbutamide on 44 diabetic patients, injecting 50 mg. per Kg. body weight as a 2% solution. He demonstrated what he concluded to be an insulinase inhibition by the drug. However, one month later Vaughn[10] could not demonstrate any effect of carbutamide on insulinase activity *in vitro* with an insulinase enzyme system, employing I^{131} labeled insulin.

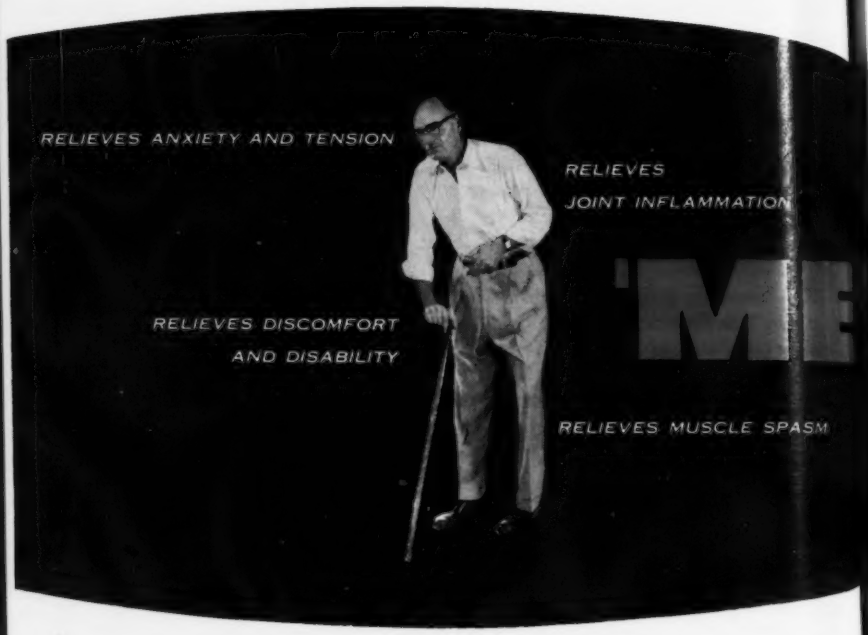
The effect of lowering the blood sugar can be obtained in the absence of the adrenals or the pituitary, indicating that these endocrine glands are probably not involved in the action of the sulfonylureas. There is no hypoglycemic effect if the liver and other viscera are removed.[12] Major *in vivo* effects of insulin, such as greater utilization of glucose by muscle, and promotion of lipogenesis, do not occur when these compounds are given by themselves, and in no way can they be considered substitutes for insulin.

10. Vaughn, M., *Science*, 123:885-886,1956.
11. Mirsky, I. A., et al., *Science*, 123:583-584,1956.
12. Cox, R. W., et al., *Diabetes*, 5:366-371,1956.

SUMMARY

The advent of the sulfonylureas clearly opens a new approach to the study of carbohydrate metabolism and the treatment of diabetes. The drugs are useful in selected patients, the mature and stable diabetic with disease of short duration and mild degree. They are not useful for the labile, juvenile type of diabetic patient. When complications of infections, acidosis and surgery occur, these drugs have no place in the care of the disease, and insulin is the irreplaceable drug of necessity. The mode of action requires the presence of insulin, and there is evidence for multiple effects. There is stimulation of the beta cells and inhibition of the alpha cells of the islets of Langerhans. In addition there are measurable effects on liver enzymes which permit greater hypoglycemic effect of insulin. Toxic side-effects have occurred in about 1% of cases treated with tolbutamide and 5% of those treated with carbutamide. Because of this high incidence with a drug which is one of convenience and not of necessity, carbutamide has recently been withdrawn from experimental clinical trial. These drugs are not for sale yet, and the carefully planned clinical evaluation should be completed before they are made widely available.

NEW...



Each Multiple Compressed Tablet of MEPROLONE provides the inseparable antiarthritic, antirheumatic benefits of:

1. *Prednisolone buffered*—the newest and most potent of the "predni-steroids" for prompt relief of joint pain and arrest of the destructive inflammatory process.

2. *Meprobamate*—the newest and safest of the muscle-relaxant tranquilizers for profound relaxation of skeletal muscle in spasm.

Tolerance to this combination is good because there is little likelihood of sodium retention, potassium depletion or gastric distress with buffered prednisolone, and meprobamate rarely produces significant side effects in therapeutic dosage.

An additional important therapeutic benefit, often overlooked, stems from the tranquilizing action of meprobamate. This component of MEPROLONE relieves mental tension and anxiety so often manifest in arthritics, making them more amenable to other rehabilitation measures.

INDICATIONS: A wide variety of conditions, in which four symptoms predominate: *a)* inflammation *b)* muscle spasm *c)* anxiety and tension *d)* discomfort and disability; i.e., rheumatoid arthritis, rheumatoid spondylitis (Marie-Strümpell disease), Still's disease, psoriatic arthritis, osteoarthritis, bursitis, synovitis, tenosynovitis, myositis, fibrositis, fibromyositis, neuritis, acute and chronic low back pain, acute and chronic primary and secondary fibrositis and torticollis, intractable asthma, respiratory allergies, allergic and inflammatory eye and skin disorders (as maintenance therapy in disseminated lupus erythematosus, periarteritis nodosa, dermatomyositis and scleroderma).

Therapeutic benefits of MEPROLONE compared with traditional antiarthritics

	relieves pain	suppresses inflammation	relaxes muscle	eases anxiety	improves sense of well-being
Salicylates	✓	✓			
Muscle relaxants			✓[1]		
Tranquilizers				✓[1]	
Steroids	✓	✓			✓
MEPROLONE	✓	✓	✓	✓	✓

1. Meprobamate is the only tranquilizer with muscle-relaxant action.

SUPPLIED: Multiple Compressed Tablets in bottles of 100 in two formulas as follows: MEPROLONE-1—1.0 mg. of prednisolone, 200 mg. of meprobamate and 200 mg. of dried aluminum hydroxide gel. MEPROLONE-2—provides 2.0 mg. of prednisolone in the same formula.

Common Skin Problems of the Face

Causative factors, differential diagnosis, topical treatments and the more extensive medical and surgical procedures are discussed

ASHER A. FRIEDMAN, M.D., *Norfolk, Virginia*

CONTACT DERMATITIS

Acute or chronic inflammation of the skin may be caused by chemicals, dyes, plants, cosmetics, drugs—any of many substances to which the skin is exposed.

Careful history-taking and a high index of suspicion are most important in making the diagnosis. Patch tests are valuable as aids.

Identification and removal of the causative agent is most important. Compresses and bland lotions will rapidly relieve discomfort, and disappearance of the eruption will follow. One of the great mistakes is over treatment resulting in a superimposed contact dermatitis. Antihistamine creams and local anesthetic creams are to be avoided. ACTH and Cortisone are indicated in severe reactions for temporary use.

ACNE VULGARIS

Disturbance of the hormonal balance, common between 12 and 30 years of age, is thought to be a causative factor.

Keratolytics such as resorcin and sulfur as lotions and creams are useful, with dietary restriction of chocolates and fats. Give Vitamin A internally, 50,000 to 100,000 units daily, for several months. The broad-spectrum antibiotics internally are helpful for pustular acne. In severe and stubborn cases, fractionated x-ray therapy offers the most reli-

able means. The pitted scarring can now be treated with the use of the steel-wire brush, which has given good results and is an office procedure.

LUPUS ERYTHEMATOSUS

An acute and chronic disease characterized by red, scaly patches which eventually cause superficial atrophy and scar formation. The acute form is a systemic disease which has been fatal until very recent years. The chronic forms have systemic symptoms only in rare cases which may be converted into the acute form.

The cause is unknown. Dissemination of the disease may result from exposure to the sun or ultraviolet light. Note the "butterfly" distribution of the chronic form showing atrophy and scarring. This type may persist for years.

Avoidance of the sun, and use of sun-protective creams are of value in the chronic type. In the past few years, the use of Chloroquin and Atabrine internally has given excellent results. Cortisone and ACTH are not indicated in the chronic type.

In the acute form, the use of cortisone and ACTH has prolonged life for many of these patients. However, a fatal result is still very likely.

Because of dissemination on exposure to sun, sunlamps, and sources of ultra-violet, one can perform a great service by making an early diagnosis and warning the patient.

SKIN CANCER

About 90% of skin cancers occur on the face and neck. Exposure to sunlight is a factor. Cancer of the skin may develop from keratoses leukoplakias, chronic ulcers, burns and nevi.

A basal-cell epithelioma (rodent ulcer) is slow-growing and does not metastasize unless there is a transition to the squamous-cell type. Small lesions are cured by thorough electro-desiccation. Excision can also be done. X-ray radiation may be used in some larger lesions and in areas where surgery is difficult.

INFECTIONS

Primary infection of the skin by bacteria may result in impetigo, folliculitis, furuncles, erysipelas, or cellulitis. Many other skin diseases may become secondarily infected and it is imperative to treat the superimposed infection first.

In the superficial pyodermas, topical treatment is usually curative. The agents of choice are non-sensitizing antibiotics such as bacitracin, neomycin, and erythromycin. In the generalized and deeper infections, systemic administration of antibiotics is indicated.

GRANULOMAS

A clue to the discovery of many a chronic granuloma can often be found by examination of the face. Sarcoid commonly shows pearly nodular lesions around the eyes, lids, nose and lips. Tuberculosis of the skin gives rise to lupus vulgaris. The moist, raised, reddish infiltrations around the mouth and lips are very characteristic of syphilis. Biopsies in the granulomas are usually necessary in making the specific diagnosis.

Virginia M. Monthly, 83:440-442,1956.

Congenital Anomalies of the Hip in Young Infants

Since the future course of these hips is unpredictable, and the treatment is conservative, therapy in all cases seems to be justified

H. R. McCARROLL, M.D., *St. Louis, Missouri*

Congenital anomalies of the hip are not infrequent and can be identified at birth. The dysplastic hip with an inadequate acetabulum and upward displacement of the head of the femur is truly congenital. Other defects encountered are absence of the head and neck of the femur, or absence or major maldevelopment of the corresponding innominate bone. The dysplastic hip and congenital dislocation in years past—were seldom detected prior to the age of standing and walking.

Dysplasia from maldevelopment of the acetabulum with a sloping inadequate roof often shows little or no deformity. In the normal child, the hip and knee can be flexed to 90° and in this position the hip can be moved into abduction 90°, and often approximated to the examining table without difficulty. This excursion in abduction is markedly limited in the dysplastic hip, and in unilateral involvement marked by asymmetry between the two sides. X-ray examination should be made.

The dysplastic hip usually can be treated successfully by simply maintaining a position of wide abduction of the hips for several months by the use of an abduction splint, a pillow splint, long leg plasters and

cross bar, or by means of a cross bar connecting the two shoes. The use of plaster casts has proven satisfactory and has the advantage of maintaining constant position at all times and of permitting one to maintain the position of internal rotation for these extremities during the early phases of treatment. This will often seat the upper end of the femur in the acetabulum more satisfactorily.

Many hips of this type will correct themselves spontaneously and develop normally with no treatment, but many go on to a complete dislocation, or persist and appear as an upward subluxation. Since the future course cannot be predicted, and since treatment is so conservative, treatment is justified in all cases.

In complete dislocation the upper portion of the femur is displaced laterally and superiorly and the projecting portion of the femoral neck will lie above the superior rim of the acetabulum. Instability of the hip joint is the most important single diagnostic point in differentiating the two types, and is best demonstrated by flexing the hip and knee to 90° each, and with one hand telescoping the femoral head along the side of the pelvis with a push and pull movement while the pelvis is stabilized with the opposite hand.

If gentle manual traction will permit the femoral head to slip into the acetabulum, immobilization in the position of stability should follow. Forceful manipulation should never be used. If extension with abduction and internal rotation will maintain reduction, the treatment as described for the dysplastic hip will also suffice in this type.

J. Missouri M. A., 53:659-663,1956.

Complications of Infectious Mononucleosis

This disease is probably viral in origin and involves all systems of the body; it is responsible for many deaths

JOHN G. BRAZER, M.D., *Omaha, Nebraska*

Infectious mononucleosis has been looked upon as a "benign" disease, however, a review of the literature shows that a wide variety of pathological conditions exist as a part of this disease or as specific complications of it. Hepatic involvement is so nearly universal as to be considered part of the symptom-complex.

Central nervous system involvement was the cause of death in seven of 16 reported fatal cases, the rest were mainly due to myocarditis and rupture of the spleen. Twenty to 40% of the Guillain-Barre type complications resulted in fatalities. Respiratory paralysis was a frequent cause of death in cases having C.N.S. involvement, and suggests heterophile agglutination checks in patients suspected of having bulbar polio. Raftery cites a case of Guillain-Barre syndrome occurring 17 days after the apparent clearing of the initial infectious mononucleosis syndrome and manifesting profound fatigue up to one year later. Of the C.N.S. cases, 40% never develop positive heterophile agglutinations and 50% become positive only after one to three weeks onset.

Wintrobe stated that the presence of anemia made the diagnosis of infecious mononucleosis highly improbable, but there are many reports of acute hemolytic anemia as a complication.

Myocarditis has been reported as

a cause of death. T-wave inversion changes, reverting quickly to normal have followed two days of ACTH therapy.

Perhaps all cases have a hepatitis. Jaundice occurs in 5%, hepatomegally in 16 to 27%; one or more liver function tests were abnormal in 90% of one series by Bennett.

Eye complications include orbital and periorbital edema, uveitis, optic neuritis, retinal edema, and retinal hemorrhages.

The heterophile agglutination test is also positive, in significant titers at times, in many other diseases. A titer of 1:1,792 in the absence of serum sickness may be accepted as indicative of infectious mononucleosis without confirmation by absorption. Hoaglund states that a titer of 1:56, with 1:25 on guinea pig absorption, is diagnostic.

Cortisone and ACTH may be life saving, but not required in the average case; 20 mg. of ACTH in 1,000 cc. intravenous drip daily for three days usually gives excellent response. Brutsche reported the disease was not affected by penicillin, aureomycin, or chloramphenicol. He used ACTH, 25 mg. daily in 1,000 cc. 5% glucose in water intravenously for a total of 100 mg. over a period of six days, in a prostate patient. The response was dramatic.

Liver function studies should be done, and, if positive, the liver disease should be treated by bed rest, high-carbohydrate, and high-protein diet with vitamin supplements.

Nebraska M. J., 41:325-329,1956.

Chronic Pyuria

Characteristics of offending organisms responsible for pyuria, and measures that may be effective in overcoming their influence

C. D. CREEVY, M.D., *Minneapolis, Minnesota*

Failure of sulfonamides and forced fluids suggests that some factor is protecting the offending organism against the agents used, and demands a search for that factor before immunization against all the potent antibiotics has occurred.

In the female, the diagnosis cannot be made unless the urine is procured with a catheter; in the male, the starting point should be the 2-glass test, the prostate should always be massaged and the freshly expressed fluid examined under a cover slip for pus.

Areas of tender induration in the gland suggests acute prostatitis, a fairly common cause of recurrent dysuria and frequency in the male. Between attacks, the gland may feel normal, so it may be necessary to examine during an acute attack.

The sediment of a centrifuged fresh specimen stained by Gram's method is a rough guide to the selection of the proper antibiotic. Complete absence of bacteria in the presence of pus suggests the possibility of amicrobic pyuria or of urinary tuberculosis. In this event, the urine should be cultured to make sure that the findings of the Gram stain are valid. Both smear and culture are unreliable if antibiotics have been given within the past few days.

Next a plain x-ray for stones, enlarged, shrunken, or absent renal shadows, for blurring of the margins

of the psoas muscles (perinephritic abscess), and for lesions of bone.

Beyond this point usually the urologist should have charge.

Sensitivity tests make a good starting point with antibiotic resistant bacteria for ordinary purposes. "Difco discs," are dropped onto the agar, taking care that each one corresponds to a labelled segment. Organisms can be classified as resistant if, after 24 hours in the incubator, they have grown right up to the edge of the disc; as slightly, moderately, or quite sensitive, according to the width of any clear zones of inhibition around the discs.

ANTIBIOTIC ALTERNATIVES

B. proteus is unlikely to respond to any one antibiotic. Convenient to use and just as likely to be effective as any are Chloromycetin 0.5 and Gantrisin 2 gm., four times daily; at the end of a week the dose is reduced by one half; after another week four times daily to one fourth of the original; stopped at the end of the third week. If the urine is not grossly clear at the end of the first week, there is no point in continuing this regimen. A third alternative consists of Furadantin, 7 mg. per Kg. of body weight per day divided into four equal doses, and Gantrisin, 2 gm. four times daily. The former should never be taken on an empty stomach; nausea from the first few doses may disappear though administration is continued. The same practice of halving the dose at the end of the first week, and of quartering it at the end of the second, is followed; it is stopped at the end of the first week if the urine has not cleared. Continue for three weeks to kill all of the organisms if possible; many recurrences are due to stopping treatment as soon as the urine clears

Pseudomonas aeruginosa is usually insensitive to antibiotics ordinarily used. A few strains may succumb to one of the tetracyclines or to calcium mandelate, 3 gm. four times daily, with fluid intake limited to 1200 cc. While infections with these organisms are rarely serious, an occasional strain behaves in a virulent fashion. In such cases Aerosporin (polymyxin B) is used. Because of its neuro- and nephrotoxic properties, and because it has to be given parenterally, the patient should be hospitalized. The drug is mixed with 1% procaine and injected intramuscularly. Even then, it may cause pain at the site of injection. The largest safe dose is 2.5 mg. per Kg. per day, in four equal amounts. If treatment is continued for more than a few days, tests of renal function should be made every 48 to 72 hours, while keeping alert for signs of damage to the central nervous system.

Aerobacter aerogenes is a close relative of *E. coli*, but is far more resistant to antibiotics. Most likely to be effective are the tetracyclines, chloromycetin, and sulfonamides—in that order. The sensitivity tests are useful here, as well as in resistant strains of other species.

Staphylococci which are resistant to penicillin may succumb to erythromycin, 400 mg. four times daily, i.d.

The virtual disappearance of the arsenicals from the market is regrettable as the rare amicrobic pyuria was cured immediately following the use of these agents.

In some cases an infection will clear with a certain antibiotic, only

to recur as soon as it is stopped. Here one should reinstitute the original treatment until the urine clears, then gradually reduce the dose to the minimum that will keep the urine clear without harming the patient. One such patient has taken one 250 mg. capsule of aureomycin daily since it first became available, without any ill effects; if he stops it, his urine clouds up at once. He has large bilateral hydronephroses which preceded a successful transurethral resection.

A method used at the Mayo Clinic in similar circumstances involves giving the agent which has been found to be capable of clearing the urine for one week of each month.

Minnesota Med., 39:281-284,1956.

Catheterization of the Left Side of the Heart

The special anatomic problems best clarified by left-heart catheterization are:

1. How severe is the aortic stenosis?
2. When mitral stenosis and insufficiency are associated, which is predominant?
3. When aortic stenosis and mitral disease are associated, which is the most important?
4. In some cases of "idiopathic" pulmonary hypertension, is "silent" mitral stenosis present?
5. In some cases of heart failure with valvular disease, which is the more important, the valvular defect or the failure of the myocardium, such as might be associated with hypertension or rheumatic myocarditis or both?

Findings must be weighed along with other data in making the diagnosis.

Catheterization of the left side of the heart *via* the posterior percutaneous route has been attempted in 27 patients with valvular heart disease. It was successfully completed in 26; the youngest patient was 14, the oldest 63.

The preliminary clinical diagnoses of the predominant valvular lesions were confirmed by this physiologic study in 23 of the 26 cases. The sequelae of this procedure: Pleuritic pain in right lateral and posterior portions of the thorax in ten patients which persisted for one to four days; two expectorated small amounts of bloody sputum during the procedure, and one had hemoptysis the day after it. It was unsuccessful in one patient because a vasovagal reaction developed during the attempted insertion of the needle into the left atrium.

Roentgenograms were made the first day after in 22 of the 27 and 5 of these revealed small pleural effusions or pneumonitis at the right base.

Thirteen patients from this series have been operated on, and the findings in every case confirmed the diagnosis made from the findings on catheterization with respect to the predominant valvular defect.

Although the sequelae has been minor and of short duration, it is known that serious complications can occur. Three deaths have been reported. Patients should be observed carefully for at least 24 hours, and a roentgenogram of the thorax should be obtained during this period.

Burchell, H. B., et al., *Proc. Staff Meet. Mayo Clinic*, 31:105-120, 1956.

SWIFT RELIEF
OF PELVIC SYMPTOMS–
FREQUENCY, URGENCY, DYSURIA, STRAINING, SENSATION OF INCOMPLETE EMPTYING; REFERRED PAIN TO ABDOMEN, PELVIS, LUMBOSACRAL REGION, AND UPPER THIGHS; SUPRAPUBIC PAIN

These symptoms are frequently due to an unsuspected urethritis, which yields quickly to FURACIN Urethral Suppositories. Insertion of these suppositories provides gentle dilation; the anesthetic, diperodon, affords prompt and sustained relief of pain. The antibacterial, FURACIN, achieves wide-spectrum bactericidal action without tissue toxicity. Indicated for bacterial urethritis, and for topical anesthesia and prophylaxis of infection before and after instrumentation. Each suppository contains FURACIN 0.2% and 2% diperodon • HCl in a water-dispersible base. Hermetically sealed, box of 12.

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Vaso onstrictive and Vasodilating Syn omes of the Extremities

Digital pallor or cyanosis helps to establish the diagnosis of Raynaud's phenomena; treatment is generally conservative

J. EARLE ESTES, M.D.,* *Rochester, Minnesota*

The most common dermal vasoconstrictive manifestations are Raynaud's phenomena—transient episodes of digital pallor, cyanosis and erythema. Pallor is caused by constriction of the digital arteries; cyanosis to a lesser degree of constriction; erythema to "rebound" after recovery from an episode of vasoconstriction. One, two or three phalanges of one or more digits of one or both hands may be affected. Different phalanges, or combinations of phalanges, can be involved in various episodes.

Intermittent attacks of either digital pallor or cyanosis must occur to make the diagnosis. These phenomena for two years or more in the absence of any obvious cause may be considered to be Raynaud's disease, the criteria of which are:

1. Episodes of Raynaud's phenomena which are precipitated by exposure to cold, emotional stress or other factors.
2. These phenomena are usually bilateral and symmetrical.
3. Absence of gangrene except for the characteristic finger-tip type.
4. Absence of any underlying primary causative disease.
5. Duration of symptoms for two

*Mayo Clinic and Mayo Foundation.

years or more.

Treatment is conservative in all but the most severe cases. In the milder cases the patient is assured that extensive gangrene does not occur. The importance of avoiding known precipitants of episodes is emphasized. Advise no use of tobacco for at least six months. If no benefit results, the use of tobacco may be resumed.

Vasodilating drugs, as priscoline, dibenzyline and nicotinic acid, have been of only minimal benefit in doses that could be tolerated.

In the severe forms, when conservative treatment has failed to relieve symptoms or prevent progression of the disease, bilateral lumbar sympathectomy will almost always relieve symptoms in the lower extremities. Sympathectomy for disease of the upper extremities benefits only half the patients operated upon. There is no evidence that sympathectomy will alter the course of acrosclerosis or diffuse scleroderma. In Raynaud's disease, it may indirectly deter the development of secondary sclerodactylia by inhibiting episodes of vasoconstriction.

Mod. Concepts of Cardiovas. Dis., 25:355-360,1956.

Meprobamate Shows No Addiction

Meprobamate has been used to alleviate postoperative depression and anxiety in more than 250 surgical patients. Some of these patients were given 400 mg. 6 times a day, for as long as 20 days. There was no sign of addiction, habit formation, or tolerance. A few of the surgical patients were alcoholics, but they presented no problem. It may be especially important to watch for abuse when meprobamate is prescribed for alcoholics.

Lamphier, T. A., *J.A.M.A.*, 163:1,68,1957.

Impending Cerebral Thrombosis and Intermittent Cerebral Arterial Insufficiency

The incipient stages of cerebral thrombosis often can be detected; thrombosis may be prevented or controlled by the anticoagulating agents

JOHN A. AITA, M.D., *Omaha, Nebraska*

In the case of incipient basilar artery thrombosis or extensive carotid artery involvement, early diagnosis and treatment are often life-saving. Signs and symptoms in middle-aged or older patients are of impairment of function for several minutes to several hours. They may disappear entirely, or may leave permanent, minor deficits.

In some cases a slowly progressive (continual or intermittent) extension of neurologic impairment.

Carotid artery syndrome may include one or more of the following: homolateral, monocular visual loss; contralateral weakness, paresis, paralysis of one or both limbs. Contralateral paresis of face (lower ⅓), aphasia, apraxia, dysarthritic or slurred speech.

Basilar artery syndrome usually *several* of the following: diplopia, ptosis, pupillary changes; III, IV and VI cranial nerve impairment; numbness and tingling, sensory impairment to face, loss of corneal reflex (V cranial nerve). Facial paralysis—partial or complete, dizziness and vertigo, nausea, vomiting (VIIII nerve). Dysphagia and dysarthria, inability to protrude tongue, ataxia, intention tremor, nystagmus. Horner's syndrome, visual disturb-

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safety highlighted in every clinical report.

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calms tense patients.

ATARAX produces its calming, peace-of-mind effect without disturbing mental alertness. In the tension/anxiety conditions for which it is intended, you will find ATARAX effective in about 9 of every 10 patients.

prescribe ATARAX as follows:

Adults: usually one 25 mg. tablet, or two tsp. Syrup, three times daily.

Children: (over 3 years): usually one 10 mg. tablet, or one tsp. Syrup, twice daily.

Supplied: Tablets, tiny 10 mg. (orange) and 25 mg. (green), bottles of 100. Syrup, 10 mg. per tsp., pint bottles.

Since response varies from patient to patient, dosage should be adjusted accordingly. Prescription only.

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ances—unilateral, bilateral or alternating; hemianopsia; visual agnosia. Sensory changes in limbs, often alternating r. and l. or bilateral; weakness or spasticity of limbs—often alternating r. and l. or bilateral. Bilateral Babinski signs. Mental changes. Unconsciousness.

In differential diagnosis, note absence of great complaint of headache, positive spinal fluid findings, stupor of any depth or duration, convulsive phenomena, signs or symptoms of increasing intracranial pressure. Treatment: Anticoagulant drugs offset the insufficiency and prevent impending thrombosis. Heparin immediately. Dicumarol-type drugs for long duration. Prothrombin time maintained around 30-40% of normal. Daily prothrombin time determinations until response becomes predictable. Maintain this regimen indefinitely.

Nebraska M. J., 41:397-398,1956.

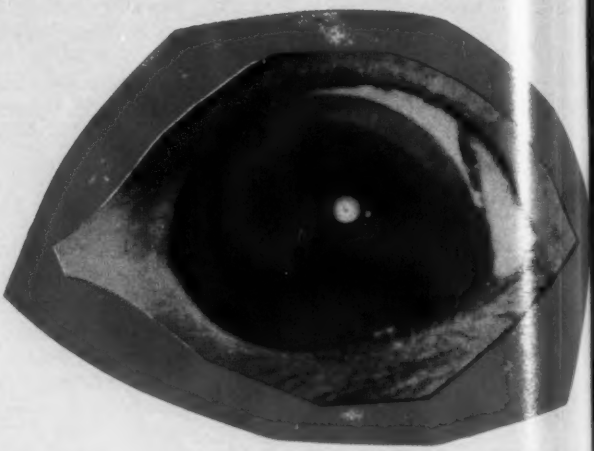
Hypotensive Drugs in Symptomless Hypertension

With the long life-expectation of most hypertensives, it will require a very prolonged period of observation before it is known whether hypotensive drugs improve prognosis, and particularly whether they reduce the incidence of atherosclerosis. The most widely used hypotensive drugs —methonium and its allies, reserpine, and hydralazine—are all unpleasant in their side-effects. A new, safe and less troublesome drug will be needed before asymptomatic patients can be subjected to a therapeutic trial which may last a decade or two.

Brit. M. J., 4984:111,1956.

does not burn or irritate the eyes

PROOF



No evidence of irritation after introduction of Johnson's Baby Shampoo into conjunctival sacs of rabbits three times daily for 15 days.

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Prepared for the readers of Clinical Medicine by the Research Department of the leading investment banking and brokerage firm of Bache & Co., 36 Wall Street, New York 5, New York

These monthly articles point out one method by which the professional man may overcome the particular handicap imposed upon him by our tax structure, which taxes the bulk of his income at normal income tax rates, as opposed to the capital gains tax avenue open to many business men. One solution to this problem is the systematic investment of a portion of current income each year in securities. Such a program, which should include many different types of investments such as bonds, preferred stock, common shares and shares of mutual funds, will have as its objectives growth of principal together with reasonable income. We again emphasize that even the most complete series of articles of this type cannot take the place of consultation with a representative of a reputable brokerage firm.

Whenever a downturn in industrial activity threatens, a great many seasoned investors turn to the so-called more stable stocks. Although any given number of investment advisors would probably give as many definitions of such stocks, there are a few characteristics that all might agree such securities should possess—stability of earning power, long-term growth and reasonably liberal yield. Such characteristics are often found in some stocks in three industries, department stores, electric utilities and banks.

The steady rise in population combined with a high level of consumer disposable income indicates a healthy market for the type of consumer goods stocked by department

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1. Levy, S., *JAMA.*, 153:1260, 1953
2. Thompson, L., Procter R., *North Carolina M. J.*, 15:596, 1954

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Sole Distributors in California, The Brown Pharmaceutical Co., Los Angeles

stores. With the substantial branch store building programs of many leading companies at their peak in 1956 and 1957, earnings gains for the industry over the next few years could be substantial.

Shifting patterns of living create new demands for merchandise. In addition, weakening of fair trade should strengthen the ability of department stores to compete effectively with discount houses, many of which have discovered, that in addition to low prices, customers also like the traditional services offered by department stores.

Both the near and longer-term outlook for electric utilities is for continued growth as electric power plays an ever-increasing role in the country's economic life. Private utilities this year will spend some $3.8 billion on construction, some 31% above 1956. Total kilowatt hour sales this year are projected at 8.3% above 1956. Earnings and dividends of utility issues have traditionally been among the most stable in the entire equity field.

Bank earnings are traditionally more stable than those of industrial companies. This condition stems from the fact that bank earnings are derived from two primary sources, investments and loans. In times of lower business activity, more assets are put into investments as demand for loans diminishes. Thus, even in bad times, earnings do not decrease as sharply as in industrial operations. The element of growth is present in banks, whose earning power should grow with the economy in the future.

We have selected three issues as representing quality commitments in these fields—Federated Department Stores, Marine Midland Corporation and Columbus & Southern Ohio Electric.

FEDERATED DEPARTMENT STORES

Federated Department Stores has been one of the most successful operations of its kind in the country. The company's aggressive management has succeeded in more than doubling sales volume over the past decade and almost doubling net earnings and now operates one of the best groups of retail properties in the industry. This is a record which not only is excellent for the stable retail industry, but which compares favorably with many industrial companies.

Some idea of the stability and defensive characteristics of the company can be gleaned from the fact that although incorporated in a rather inauspicious year—1929—the company has shown a profit in every year of its operations and has paid dividends since 1931. What's more, the company is continuing its program of aggressive expansion.

The company now operates nine major department and speciality stores with 17 branches, as well as the Fedway division, formed to develop units in smaller, faster growing cities, which now has nine stores in operation, mainly in the Southwest and Far West. Federated's major stores include Abraham & Straus, a leading department store in Brooklyn; Bloomingdale's in New York; Filene's in Boston; Foley's in Houston; the Boston Store in Milwaukee; Shillito's in Cincinnati; Sanger Bros. in Dallas; Lazarus in Columbus; and Burdine's in Miami, acquired last July. Three new branches will be opened this year.

Abraham & Straus, established in

Federated Department Stores			
Price	30⅝	Capitalization (1/28/56)*	
Indicated Dividend	$1.60	Long-term debt	$19,3[illegible],524
Yield	5.2%	Common Shares	7,6[illegible],731
1957 Price Range	27⅞-31¼	*Adjusted to include purchase of Burdine's in July, 1956.	
Traded	N.Y.S.E.		

1865, operates a leading department store in Brooklyn, as well as branches in fast-growing Long Island. A third major branch in Long Island is slated for completion this summer.

Filene's, widely known as a fashion specialty store, is also opening a major branch this year. Filene's North Shore, located in Peabody in the new 100 acre North Shore Shopping Center on Route 128, a major circumferential expressway skirting metropolitan Boston and connecting many of the suburbs, will be the first large fashion specialty store in its area. The building, of more than 100,000 square feet, is slated for a late 1957 opening.

Sanger's, established in 1857, is the oldest department store in Texas, and will open the third new unit to be added to Federated in 1957. A branch of over 100,000 square feet will be opening in the active shopping area of Preston Road and Northwest Highway, Dallas.

In addition, to a major expansion of Foley's in Houston, completed in 1956, Federated has also announced eight other projects, including parking facilities, which will be completed after 1957. This appears to be a clear indication that the Federated pattern will continue to be that of aggressively, but selectively, building and acquiring additions to its present outstanding group of department stores.

To illustrate what has been accomplished by the company in the past, earnings in the 1946-55 decade, for example, rose 84% after taxes, while volume climbed 102% dividends per common share 162[illegible], and common stockholders equity 170%. Sales in fiscal 1955—the 52 weeks ended January 28, 1956—amounted to $537.7 million, compared to $500.6 million in fiscal 1954 and $265.4 million as recently as 1946. In fiscal 1956, the 53 week period ended January 31, 1957, sales topped the $600 million mark for the first time in the firm's history, an 11.6% gain over 1955.

Earnings have moved steadily higher as well. The company reported net earnings of $3.07 a share in fiscal 1955, compared to $2.63 a share in the preceding year and $2.04 a share in 1946. The company netted $1.80 a share for the first nine months of 1956, compared with $1.75 in the same period of 1955 and probably gained moderately for the full year. It should be noted that earnings per share rose less than sales last year due to several factors, including an additional number of common shares outstanding which are not yet showing the full benefit of the integration and development of Burdine's, the Miami store and branches for whose acquisition they were issued. Earnings in 1956 were also held back by pre-opening expenses reflecting the renewed expansion upsurge scheduled by the

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Federated's steady growth moreover has been achieved without the necessity of adding large leverage to the common stock by debt issues, as many other retail operations have had to do. Stockholders equity as of January 1956, had risen to 88% of the capital structure as against 53.5% in fiscal 1946. Also of significance is Federated's profit margin, one of the widest in the department store group. In 1955, Federated's net income as a percentage of sales came to 4.1% against 3.8% in the previous year, both figures being well above average for this industry.

Federated's excellent management has made no dogmatic choice on the question of whether it is preferable to expand downtown facilities or to expand only in the suburbs. President Fred Lazarus, Jr. told stockholders last year, "We have been asked many times what is the Federated philosophy as regards physical expansion and how we determine whether to enlarge a downtown store or to develop branches or both. We expand at a time when we feel that both the ability of our organization and the economy of the trading area justify it."

Thus, in the decade from 1945 to 1955, the company increased its main store facilities from 4.1 million square feet to 6.6 million, at the same time increasing branch store space from 182,000 square feet to almost 1.3 million.

With expansion continuing at an aggressive rate, the prospects for continued growth of this well managed chain continue good and the shares appear attractive for inclusion in diversified accounts as a quality commitment for income and long-term growth.

COLUMBUS & SOUTHERN OHIO ELECTRIC

When investors are thinking of stocks in companies that are stable, "defensive," and likely to grow with the economy, they are most likely to think of utilities. Such a company, in our opinion, is Columbus & Southern Ohio Electric Company. Both in terms of expectable near-term earnings and on the basis of what the company should be able to earn without exceeding regulatory permissable overall return, the shares of this company appear undervalued.

The company's principal electric service territory includes the district in and around Columbus, Ohio, as well as a district bounded on the south by the Ohio River and extending from the Hocking River Valley on the east to points within approximately 35 miles of Cincinnati on the west. In addition, the company sells electricity in a small area, not interconnected with the main system, some 20 miles north of Columbus.

The total territory served by the company has an area of approximately 600 square miles, with an estimated population of 960,000. Principal communities served by the company include Columbus, with a 1950 population of 375,901. Chillicothe, Bexley, Delaware, Athens, Circleville, Gallipolis, and Grandview Heights. Metropolitan Columbus has an estimated population of 580,000.

Industries in both sections of the company's main service territory use large amounts of electrical energy to produce airplanes, automobile parts, metal bearings, mining ma-

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Columbus & Southern Ohio Electric			
Price	29⅞	Capitalization (12/31/56)	
Dividend	$1.60	Long-Term Debt	$97 10,000
Yield	5.2%	Preferred Stock	$19 84,000
1957 Price Range	28⅝-31¼	Common Shares	2 51,360
Traded	N.Y.S.E.		

chinery, electrical appliances, cement, glass products, television tubes, fabricated steel products, plastics, steel castings, railroad parts for rolling stock, fluorescent tubes and coated fabrics.

The stature of Columbus, Ohio as an industrial center has advanced from 1939, when the city had 521 plants producing goods valued at $364 million, to 739 plants only a decade later, producing goods valued at an estimated $942 million. The city is also the site of one of the largest Pennsylvania Railroad shops, and is also the home of Ohio State University, which has an enrollment of some 12,000. The presence of the university, coupled with many branches of the state government located in the city, give the area a certain stability not possessed by more highly industrialized centers. The company derives about three fourths of its total electric revenues from sales in Columbus and the surrounding area.

The company's service area in southern Ohio is rapidly attracting new industries for many reasons. It has good transportation facilities in proximity to national markets; it has abundant raw materials and mineral resources, including coal, clay, salt brine, limestone, sand and gravel. Moreover, the Ohio River offers an inexpensive method of shipping and an ample supply of water. The rate of economic development in this area has great potential for substantial gro th. The needs of new industries, par icularly the Atomic Energy Plant, vill require improved highways nd accelerate the growth and mo lernization of numerous communi ies and the expansion of schools, ommercial facilities and housing.

The company's operatin revenues have grown steadily i recent years, illustrating the growth of the industry as a whole. Thus, in 1956, operating revenues amounted to $41.7 million, compared to $39.5 million in 1955 and only $19.2 million in 1946. Balance available for common stockholders has also advanced steadily, to $5.9 million in 1956 from $5.8 million in 1955 and only $3.1 million a decade ago.

Earnings per share amounted to $2.23 a share in 1956, compared to $2.18 a share in 1955 and $1.84 a share in 1954. This year, the company expects to earn between $2.25 and $2.30 a share. Revenues are expected to rise by 10% this year, while kilowatt hour sales of electricity are expected to go up 11%. The company will probably spend $29.9 million on new construction this year and $25 million in 1958.

In our opinion, based on capital presently invested, the company should be able to earn close to $2.70 per share without exceeding a regulatory permissable overall return. This would indicate an investment value for the shares of between $34 and $41.

This should be considered a somewhat longer-range objective, but the company has projected a better-than-average growth rate over the next three years, and it is reasonable to expect that this will be translated into a continued improvement in earnings. The present dividend rate of $1.60 per share has been in effect since 1953, and in our opinion, an increase can be expected, possibly this year. Based on the above mentioned factors, the shares appear attractive for yield, safety of principal and gradual growth.

MARINE MIDLAND CORP.

Marine Midland Corp. is a bank holding company which, as of year-end 1956, had a majority ownership of 13 banks operating 149 offices in 75 communities in New York State. Since then, the company has acquired one additional bank, the Lake Shore National Bank of Dunkirk. Marine Trust Company of Western New York, with 61 offices in and around the Buffalo area, is the largest bank in the Marine Midland family, controlling 29% of the system's resources and 28% of deposits. It is also the largest bank in New York State outside of the New York City area. Together with the Marine Midland Trust Company of New York, it controls 65% of the system's resources and 65% of the system's deposits. Nevertheless, the other 11 banks, while much smaller in size—ranging from $208 million in resources for the Genesee Valley Union Trust Company to $11 million for the First National Bank of Herkimer—are leading and important financial institutions in the areas they serve.

As of December 31, 1956, total deposits for the corporation amounted to $1,879 million, an increase of $93 million or 4.9% for the year. Demand deposits were up $58 million to $1,336 million. The 4.5% increase in demand deposits was considerably above the industry average of less than 1%. Of greater significance is that the banks in financial centers, such as New York and Chicago, showed decreases or remained roughly at the same levels while Marine Midland Trust Co. of New York, operating in New York City only, managed to show a 10% increase in deposits—the best record of any major New York City bank.

Although deposits are not as important in the short term earnings picture as interest rates or loan demands, they are the key factor in the long range outlook. It is through growth of deposits that a bank is able to expand its services and provide the funds to make for more profitable operations. In New York State, which is usually neglected in discussions of growth areas, Marine Midland, over the past decade, has been able to compile an impressive record with sizable gains being scored in virtually every category. Of even greater significance is the fact that the economy of New York State is changing rapidly. The St. Lawrence Seaway, public and private power developments and the recently completed New York State Thruway are expected to add materially to the economic prosperity of the area.

Net income has kept pace with this increase. Consolidated net operating income per share rose from $1.06 a share in 1952 to $1.28 in 1953, held at $1.26 for 1954, then rose again to $1.37 a share in 1955.

MIDLAND MARINE CORPORATION			
Price	20	Capitalization	
Indicated Dividend	.90	4% cum. conv. Preferred Shares	
Yield	4.5%	$50 par	2,217
1957 Price Range	18⅝-20⅛	Common Shares	8,(6,517
Traded	N.Y.S.E.		

During 1956, through the combination of expanded loan volume and higher rates of interest on loans, net operating earning increased 19.4% to $13.7 million. After provision for preferred dividends, this equals $1.62 per share. For the first quarter of 1957, net operating earnings were 18% ahead of the like period in 1956. Net income on a per share basis amounted to 40¢ for the quarter ended March 31, 1957, up from the 34¢ reported in the 1956 period. While it is still early in the year, it appears reasonable to anticipate higher net operating income for this year. This reflects the fact that the prime interest rate, unchanged since August, 1956, does not show any sign of turning downward, especially with monetary authorities still more concerned with the fear of inflation than deflation.

In addition, Marine Midland's 1956 earnings did not reflect the increased interest rates since there is a time-lag factor. Average rate of interest earned on loans and discounts last year amounted to 5.23% compared with 4.99% in 1955 and a further increase is expected in 1957. Included in the loans and discounts of $806 million are approximately $184 million, or 23% in small personal loans and consumer credit carrying higher interest rates and longer maturities than other loans and discounts. These loans not only make an important contribution to the earning power of the corporation, but impart a great deal of stability due to their longer maturities. The increase in small loans last year was 24%—double the rate of increase in loans and discounts as a whole.

The present annual dividend rate of 90¢ per share has been in effect since the last quarter of 1956 when it was raised from 80¢. If earnings are maintained at a level of $1.60 or better, the present dividend will represent a payout of approximately 55%, just above average for the industry. With earnings estimated to be higher, a dividend increase in the near future appears to be a distinct possibility.

Selling at a reasonable price-to-earnings ratio, the shares appear attractive on the basis of future growth prospects coupled with liberal yield and defensive characteristics.

Pantho-F 0.2% Cream *(U. S. Vitamin)*

Hydrocortisone 0.2% in a stainless, white, stable, water-miscible cream containing 2% pantothenylol (Panthoderm Cream). This lower-strength dosage form effects substantial economy in the treatment of extensive skin areas, or where therapy is long continued. *Indications:* Eczemas, dermatitis, pruritis ani and vulvae, lichen chronicus simplex, and all skin conditions requiring anti-inflammatory, anti-pruritic, healing therapy. *Application:* Clean infected area, then rub in small amount of cream 2 or 3 times daily or as required. Frequency of use may be reduced as improvement is noted. *Supplied:* Tubes of 15 gm. and 2 oz. and in one pound jars.

Mysteclin-V *(Squibb)*

Each capsule contains Sumycin equivalent to 250 mg. of tetracycline hydrochloride and 250,000 units of Mycostatin with added sodium metaphosphate. *Indications:* For fast, high initial tetracycline blood levels, and to prevent fungal overgrowth (particularly moniliasis) in the intestinal tract. For diabetics, infants, debilitated or elderly patients, requiring high or prolonged antibiotic therapy. *Supplied:* In bottles of 16 and 100 capsules.

Achromycin V Syrup *(Lederle)*

A non-allergenic syrup containing 125 mg. of Achromycin tetracycline in each 5 cc. teaspoonful, mixed with sodium metaphosphate to facilitate systemic absorption of the antibiotic. *Indications:* For infections caused by Gram-positive and Gram-negative organisms. *Dosage:* Adults, 1 gm. daily. For children adjust dosage to weight and age. *Supplied:* In bottles of 2 oz. and 16 oz.

Suromate *(Patch)*

A combination of 3 sulfonamides, an antispasmodic and a urinary alkalizer. *Indications:* For the treatment and prophylaxis of urinary tract infections, and following instrumentation procedures. *Dosage:* Three tablets initially, then 2 tablets 4 times a day with water. *Supplied:* In bottles of 100 and 500 tablets.

Antivy Lotion *(Ciba)*

A combination of Pyribenzamine and zirconium. *Indications:* For prevention and/or control of poison ivy, poison oak. *Dosage:* For prevention, apply to exposed areas of the skin whenever contact with *Rhus* plants is anticipated. For relief, apply generously to affected area 3 or 4 times a day. *Supplied:* In plastic squeeze bottles containing 80 ml.

Dorbantyl Suspension *(Sc[illegible]enley)*

A peristaltic stimulant and fecal softener. *Indications:* For the management and treatment of constipation. *Dosage:* Adults, 2 teaspoonsful at bedtime, repeat if needed. Children 3 to 12 years of age, 1 or 2 teaspoonsful at bedtime. *Caution:* Contraindicated when nausea, vomiting, abdominal pain or other symptoms of appendicitis are present. *Supplied:* In 150 cc. bottles.

Peri-Colace Syrup & Capsules *(Mead Johnson)*

A stool softener and peristaltic stimulant. The syrup contains 60 mg. of Colace and 30 mg. Peristim per tablespoonful, each capsule contains 100 mg. of Colace and 30 mg. of Peristim. *Indications:* For chronic constipation complicated by depressed bowel motility. *Supplied:* Syrup, in 8 oz. bottles. Capsules, in bottles of 30 and 60 capsules.

Antinausea Supprettes (Suppositories) *(Webster)*

Antinausea Supprettes for Children contain Pyrilamine Maleate, 25 mg., and pentobarbital sodium, ½ gr. Available in 2 strengths for adults, each contains 50 mg. of pyrilamine maleate. No. 1 contains ¾ gr. of pentobarbital sodium, No. 2 contains 1½ gr. of pentobarbital sodium. *Indications:* Nausea and vomiting of pregnancy, motion sickness, radiation sickness and vomiting due to migraine. *Dosage:* Children: 1 Supprette rectally 2 or 3 times daily. Pregnancy: one No. 1 Supprette rectally before arising. In more severe cases a No. 2 may be required. *Supplied:* In jars of 12 Supprettes.

Intramuscular Hydrocortisone *(Philadelphia Ampoule)*

Contains 50 mg. per cc. of hydrocortisone suspended in a sodium chloride aqueous solution, with benzyl alcohol as a preservative. *Indications:* Temporary substitution for oral hydrocortisone therapy, and as a pre-operative aid in elective surgery for Addison's disease. *Dosage:* Equivalent to daily oral dose. Pre-operatively, 200 mg. intramuscularly daily for 3 days before surgery. *Supplied:* In 5 cc. multiple dose vials.

Isopto -H-N (0.5% & 1.5%) *(Alcon)*

Sterile ophthalmic suspension containing Polymyxin B Sulfate, 16,250 units/cc., Hydrocortisone Acetate 0.5% and 1.5%, and Neomycin Sulfate, 5 mg./cc. in an isotonic buffered vehicle of 0.5% methylcellulose. *Indications:* In treating inflammatory and infectious lesions of the anterior segment of the eye, and in allergic, bacterial, and traumatic conjunctivitis, meibomianitis and blepharitis. *Supplied:* In 5 cc. Drop-Tainer, 0.5% and 1.5% strengths.

Nupercainal Rectal Suppositories *(Ciba)*

Each suppository contains 2.5 mg. of Nupercaine, zinc oxide, bismuth subgallate, 0.05% acetone sodium bisulfite as a preservative, and cocoa butter. *Indications:* Itching, burning and pain of hemorrhoids and pruritus ani. *Dosage:* One suppository inserted into anal canal morning and evening, and, if possible, after bowel evacuation. *Supplied:* Boxes of 12 suppositories.

Uronamide Syrup *(Flint, Eaton)*

A stable urinary antiseptic-spasmolytic-sedative solution, is effective against a wide range of urinary pathogens, and lessens pain during micturition. Needs no alkalization. *Indications:* In the treatment of urinary tract infections, especially suitable for children and geriatric patients. *Dosage:* Adults, 2 teaspoonsful 4 times daily for first 2 days, then 1 teaspoonful 4 times daily. Children, 1 cc. (16 drops) per 10 lb. body weight for first 2 days, then 0.5 cc. per 10 lb. body weight. *Contraindications:* Not to be used in cases of urticaria, nausea, exanthema, fever or hematuria. *Supplied:* In bottles of 1 pint and 1 gallon.

Suavitil *(Merck Sharp & Dohme)*

Each tablet contains 1 mg. of benactyzine hydrochloride. *Indications:* For use in mild depression states, compulsive disorders, and fear-induced anxiety states. *Supplied:* In bottles of 100 and 1,000 tablets.

Metreton Ophthalmic Suspension *(Schering)*

Each cc. contains 2 mg. (0.2%) of Menticortelone Acetate and 3 mg. (0.3%) chlorprophenpyridamine gluconate in a buffered solution for topical use in the eye. *Indications:* In the exudative and inflammatory phases of ocular disorders, such as allergic conjunctivitis and blepharitis; iritis and iridocyclitis, keratitis and scleritis. Reduces ocular scarring following ocular surgery and removal of simple foreign bodies. *Supplied:* In 5 cc. dropper bottles.

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Tryptar *(Armour)*

Purified, lyophilized crystalline trypsin, can be reconstituted with either sterile distilled water or saline solution when it is to be used in solution. May be used topically in dry form, as a wet dressing, and for aerosolization treatment of respiratory tract conditions. *Indications:* For the physiological removal of necrotic tissue in diabetic and varicose ulcers, carbuncles, furuncles, soft tissue abcesses burns and subcutaneous hematomas. *Supplied:* In vials containing 50,000, 125,000 and 250,000 Armour units.

Amethone Concentrate *(Abbott)*

A topical anesthetic agent for urological procedures. *Indications:* For relief of pain associated with urologic manipulations and instrumentation, safe for use in presence of lacerated mucosa or urethral bleeding. *Dosage:* Sufficient 0.33% solution should be instilled into the urethra for complete filling. *Supplied:* In 20 cc. Abbo-Vials, packed in 5's.

Comycin Capsules *(Upjohn)*

Each capsule contains tetracycline phosphate complex equivalent to tetracycline hydrochloride, 250 mg., and 250,000 units of Nystatin. *Indications:* For infections caused by tetracycline-sensitive organisms, where monilial infections complicate broad-spectrum antibiotic therapy, for patients receiving concomitant cortisone or related steroid therapy, debilitated and elderly patients, diabetics, infants, and patients with previous history of monilial infection. *Dosage:* One tablet 4 times a day. *Supplied:* In bottles of 16 capsules.

Hyasorb Penicillin *(Key)*

Each Hyasorb Penicillin tablet contains 250,000 units potassium penicillin G. *Indications:* Where maximum absorption and utilization of penicillin G are required. *Dosage:* Two 250,000 unit tablets at 10-12 hour intervals. *Supplied:* In bottles of 36 tablets.

Ferromalt Tablets *(Borcherdt)*

Iron therapy for prompt hemoglobin response. Each enteric-coated tablet contains.

Ferrous sulfate .....195.0 mg.
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Malt Soup Extract .....150.0 mg.

Indications: For treatment of iron deficiency anemia. *Dosage:* One tablet 3 or 4 times a day. *Supplied:* In bottles of 100 tablets.

Albutest *(Ames)*

A colorimetric tablet test to detect the presence of proteinuria. The presence of protein is indicated by a color change on the surface of the tablet to which a drop of urine has been added. Filtration and/or centrifuging are not required in testing turbid urines. *Supplied:* In bottles of 100 and 500 tablets.

Incremin *(Lederle)*

A combination of lysine and vitamins B_{12}, B_1 and B_6 in tablet form. *Indications:* As appetite stimulant for children, and for adults who are underweight or wish to stimulate appetite. *Dosage:* One tablet daily. *Supplied:* In bottles of 30 tablets. Also available in a 15 cc. plastic squeeze bottle for mixing with milk or food.

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External Electric Stimulation of the Heart

Cardiac arrest occurs during various diagnostic and therapeutic procedures, particularly under anesthesia—in one in every 500 to 5000 operations.

In recent years, immediate thoracotomy with cardiac massage has become generally accepted as the primary measure in the management of unexpected cardiac arrest. Thoracotomy is recommended at the first suspicion of arrest, primarily to effect immediate restoration of circulation by massage of the heart.

Eight successful cases of cardiac resuscitation by electric stimulation of the heart are reported. The cases occurred during various procedures—seven during surgery, and one during pericardiocentesis. The cardiac arrest was terminated in each case by the electric pacemaker, so that thoracotomy and cardiac massage were not necessary. Five patients recovered completely; two died of unsuccessful cardiac surgery, and one died eight hours after operation.

These experiences seem to indicate that external electric stimulation can resuscitate the heart from arrest occurring under anesthesia during various procedures, just as it does from other types of cardiac arrest. The technic has been applied safely in the operating room within the few minutes available for resuscitation. External electric stimulation of the heart should therefore be tried before thoracotomy and cardiac massage are attempted.

Zoll, P. M., et al., *New England J. Med.*, 254:541-546, 1956.

Urticaria and Angioedema

Urticaria and angioedema are the two most common allergic dermatoses. Histamine or H-substance liberated at the affected site is presumably responsible. More than 50% of these patients have a positive family and personal history of allergy. The role of food allergy in these patients has been overstressed; drug allergy is one of the main causes. Skin tests may not be of any clinical importance.

Infrequently serious visceral complications involve the heart, lungs, or kidneys.

Treatment is primarily aimed at elimination of the offending agent—drug, food, inhalant, contactant, infection, or emotional stress.

Symptomatic treatment is successful in many cases with antihistamines alone. In a minority, it will be necessary to use steroid hormones. This decision must be carefully made with full knowledge of the possible serious side effects of long-term steroid therapy.

Spielman, A. D., *New York State J. Med.*, 56:2121-2124, 1956.

Conditions Simulating Acute Myocardial Infarction

Diagnosis of acute myocardial infarction in most instances can be readily made on a clinical basis and can be confirmed by laboratory procedures including ECG studies, sedimentation rate and blood cell counts. A number of clinical entities may simulate this condition so closely that the most astute doctor may at times reach the wrong conclusion. The three conditions which have proven most troublesome are pulmonary embolism, acute benign pericarditis and dissecting aneurysm of the aorta.

Acute benign pericarditis presents substernal pain, fever, leucocytosis, elevated sedimentation rate, frication rub and an abnormal ECG, especially if the patient is of middle age. Usually, the patient is young and there is a history of an acute respiratory infection two or three weeks preceding the onset of heart symptoms.

Pain, fever, and rapid sedimentation rate begin almost simultaneously, whereas in infarction, the fever and rapid sedimentation rate may appear several days after intense pain. The pain in acute pericarditis is usually influenced by respiration and eased by sitting and leaning forward. These factors have little effect on the substernal pain of infarction.

The ECG in acute pericarditis may show only minor changes, but the typical pattern early in the disease is that of marked elevations of the RS-T segments in many leads. At a later time, there may be marked inversions of the T waves without significant changes in the QRS complexes.

Embolism of one of the pulmonary arteries, or its major branches, usually results in dyspnea and cyanosis, retrosternal pain or pressure, and circulatory failure. If not fatal, fever and leucocytosis appear in 24 hours. Gallop rhythm or friction rub may be observed. Accentuated P_2 may be heard over the pulmonic area. History of recent surgical procedure or old phlebothrombosis may suggest embolism.

ECG studies are important in ruling out recent myocardial infarction, or they may reveal the pattern of acute cor pulmonale.

In dissecting aneurysm of the aorta, the picture may be very similar to that of infarction. Pain may be substernal but is usually more abrupt in onset and more resistant to opiates. It frequently persists for 48 hours or more in a severe form and to a lesser degree for many days.

Pain may radiate to the back, arms, abdomen or legs. Signs of impaired circulation may be demonstrated in these areas. Hemiplegia may occur, due to dissection of the carotid vessels. Hypertension is almost always present and is maintained in spite of the gravity of the patient's condition. Systolic and diastolic murmurs may appear at the base due to distortion of the aortic valves, and these may be aids to the diagnosis.

Repeated negative ECGs are of great help in making the correct diagnosis. In rare instances, the coronary ostia are distorted by the dissecting process causing marked ischemia of the myocardium. In these cases, the diagnosis can be made only by the history and clinical course.

Acute myocardial infarction with abdominal pain, nausea and vomit-

ing has been diagnosed as acute abdominal disease. Conditions which have been confused with infarction are acute indigestion, cholelithiasis, acute cholecystitis, perforated peptic ulcer, pancreatitis and hiatal hernia. Careful history and physical examination will usually lead to the correct diagnosis.

Corey, H. et al., *Northwest Med.*, 55:307-308, 1956.

Ozone Poisoning

Until recent times, there was little practical reason for knowing the toxicity of ozone (O_3). Advances in aviation and industry have prompted renewed scientific interest in the possibilities and probabilities of human poisoning by ozone. A layer of ozone exists in the upper atmosphere, to which aviation personnel are being exposed. Increasing use of ozone-producing industrial equipment and residential electronic air filters is responsible for more frequent exposure.

Recently it has been demonstrated that ozone in high concentration is lethal to a variety of laboratory animals, and that three parts of ozone per million of air by weight invariably produces edema and capillary hemorrhage in the lungs.

Ozone toxicity is manifested by respiratory symptoms far out of proportion to the clinical findings—drowsiness, severe dyspnea, chest pain and cough. Although no fatalities from ozone poisoning have ever been reported in man, morbidity is being encountered with increasing frequency. In three cases of ozone poisoning that resulted from exposure to a new source of the gas, the patients were welders who employed a technic known as consumable electrode welding. All three recovered, but the clinical courses of two of these patients were the most severe yet reported, exhibiting prolonged morbidity after complete clearance of the chest x-rays.

Physician's Bull., 21:8231,1956.

Pulmonary Edema Due to Angiocardiography: Treatment with Intravenous Hydrocortisone

A case of gross pulmonary edema following selective angiocardiography in a patient with primary thrombo-embolic pulmonary hypertension is reported. Recovery was clearly attributable to prolonged intravenous infusion of hydrocortisone. A test dose of sodium acetrizoate failed to provide warning of hypersensivity.

Besterman, E. M. M., et al., *Brit. M. J.*, 4994:695-696,1956.

Subclinical Edema

Increase in extracellular fluid (E.C.F.) is commonly detected by weight increase, a positive fluid balance, or by the appearance of pitting edema. Of these, change in weight is probably the most sensitive clinical index of a change in E.C.F. volume, if the patient's condition is such that a change is likely—i.e., in cases of renal, cardiac, or hepatic edema.

Leading Article, *Brit. M. J.*, 4981:1475,1956.

Etiologic Factors in Adult Convulsions

A report is made on the presumptive etiologic factor in 689 cases in which the first grand-mal convulsions came on after 20 years of age. The convulsion was generalized in 534 patients, generalized with a focal beginning in 84, and completely focal in 71. None of these patients had any type of seizure disorder previously.

It is of interest that 80% of the 689 were males. In case of seizures developing for the first time in adults, it is important that diagnostic methods be complete enough to indicate the presence or absence of an intracranial tumor. Some 25 to 45% of patients with brain tumors have seizures, and 15 to 40% of them have seizures as the initial symptom.

Data presented show that convulsions, without discoverable cause or evidence of organic brain disease, occurring for the first time in adulthood are fairly common. Of 689 patients, 527 (78%) 20 to 72 years of age, are classified as having cryptogenic, idiopathic epilepsy. Other presumptive causes for convulsions were cysticercosis, brain tumor, brain abscess, cerebral birth trauma, psychogenic factors, pregnancy, neurosyphilis, post-traumat c (cerebral) conditions, alcohol, ypertension and arteriosclerosis.

It should be emphasized that the number of the various pre umptive etiologic factors reported by no means representative of c nvulsive disorders in the general adu population. All these patients we e examined initially by competent neurologists, neurosurgeons or int rnists to rule out brain tumors, meta olic disorders such as *hypo*glycemi and hy*po*calcemia or any of the ac te cerebral diseases before they were referred to the Epilepsy C inic for treatment and follow-up car .

Livingston, S., *New England J. Med.*, 25 :1211-1216, 1956.

Herpes Simplex

Herpes simplex is a medical enigma. Primary infection varies from unnoticed lesions to severe debilitating illnesses. Infections occur repeatedly in patients who have high titres of circulating antibodies to the agent. When the eruption occurs at sites other than on the lips, it mimics many other diseases including the pyodermas, contact dermatitis, herpes zoster and venereal disease.

Though the agent has been isolated and thoroughly studied, there is still no specific therapy. Steroid therapy which is useful in so many other conditions, especially of the skin, is contraindicated in this disease.

Superficial x-ray therapy may "abort" recurrences. Repeated vaccination with smallpox vaccine is considered by many the treatment of choice. Supportive care is necessary in the management of severe primary herpetic infection in children.

Trice, E. R., et al., *Virginia M. Monthly*, 83:332-335,1956.

Errors in Evaluation of the Severity of Hypertension

All patients in this group were referred by other physicians for control of what was believed to be severe and sustained hypertension of considerable duration. First, the blood pressure was measured during the physical examination, and a decision was made as to whether the patient should enter the hospital for control of hypertension by blocking agents and hydralazine. An attempt was made to exclude milder cases which might respond favorably to reserpine, or a combination of reserpine and hydralazine, given as outpatient treatment.

In 15 cases among 247 admissions, an error was made in that hypertension was severe and sustained enough to warrant the use of blocking agents. All were subjected to ECG, intravenous pyelography, studies of renal function, and the injection of drugs for specific tests. Range of blood pressure found by referring physicians, that found on admission by resident physicians, and that measured by nurses every four hours were compared.

In all of these cases, marked falls to normal occurred under the routine of the hospital—in nine patients, the blood pressure became normal overnight. In the remainder, it became normal in two to six days.

It is essential that a screening process be instituted to select patients who have hypertension sustained all of the time for the evaluation of potent drugs. Those whose blood pressure readings are high only now and then should not be included.

Schroeder, H. A., et al., *Am. Heart J.*, 51:776,1956.

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Ritalin—An Agent For Mild Depressions

Patients undergoing psychotherapy for depression in the fifth, sixth and seventh decades were able to cooperate more readily with Ritalin than with a placebo. Such patients soon showed an increase in alertness and varying degrees of dissipation of morning depression and fatigue, often with a sense of well-being.

No evidence of drug dependence has been encountered, nor adverse effect upon blood pressure or pulse; therefore Ritalin may be used in hypertensive patients.

When anxiety was a prominent feature, the anxiety symptoms were usually intensified. It was useful in counteracting the lethargy or oversedation of ataraxic drugs, and a combination of Ritalin with an ataraxic drug appeared to be of value in therapy. Effective dosage was 30 to 120 mg. daily; when ataraxics are used the range is 10 to 60 mg. daily. Use of this agent with a limited number of tense agitated schizophrenics was disappointing.

Further clinical trial of this preparation should be undertaken, particularly in narcolepsy and as an adjunct in the management of certain types of epilepsy.

Jacobson, A., *Med. Ann. District of Columbia*, 25: 491-494,1956.

New Nasal Decongestant

A new nasal decongestant, 0.1% Tyzine solution, was used to provide symptomatic relief of nasal congestion from various causes in 675 patients. Excellent relief was afforded in 95% of the patients, and fair relief in 3%. The duration of relief was generally four hours, and by repeated instillations as needed, relief was maintained continuously for periods up to one month.

No adverse effects have been observed with the use of Tyzine except occasional instances of drowsiness in infants. This exceptional freedom from adverse effects, notably the absence of rebound congestion, and exceptional potency are qualities that have long been sought in a nasal decongestant.

Menger, H. C., *New York State J. Med.*, 56:1279-1280,1956.

Chlortetracycline in Primary Viral Pneumonia

In a series of 35 patients with primary atypical pneumonia studied for efficacy of chlortetracycline, there appeared to be little or no effect in the average case. The therapy was dramatically effective in two very ill patients. A tetracycline drug is recommended for patients who do not recover after a few days in bed.

Stevens, A. R., Jr., *Northwest Med.*, 55:772-776,1956.

Chronic Granulocytic Leukemia: Treatment with Myleran

Myleran consistently produces a decrease in the number of circulating granulocytes, probably by depressing granulopoiesis. In excessive doses, it may cause a decrease in other formed elements of the blood; the chief toxic manifestation is thrombocytopenia. The drug has been shown to be of no benefit in other types of leukemia, or in the myeloblastic phase of chronic granulocytic leukemia.

Twelve patients with chronic granulocytic leukemia were treated with Myleran in doses of 4 to 12 mg. per day until an adequate effect had been obtained. Good to excellent responses were obtained in seven patients with remissions lasting up to 13 months. Three patients who had leukopenia, thrombocytopenia, or both were not benefited. In patients who responded favorably there was subjective improvement, a fall in the leukocyte count, a rise in the hemoglobin level, and a decrease in the size of the spleen.

Early, I. G., et al., *North Carolina M. J.*, 17:315-319, 1956.

Iron-Deficiency Anemia

A therapeutic comparison is made of the values of oral ferrous succinate with a similar amount of iron given intravenously and intramuscularly in the treatment of hypochromic anemia in pregnancy and the puerperium, and in medical patients free from complication which would interfere with hemopoiesis.

Ferrous succinate taken orally is shown to be as effective as the other two methods in all but a few refractory cases. The response was less rapid in the antenatal and medical cases, though equally as rapid in the post-partum cases.

In 208 cases treated with intramuscular iron, there were no untoward side-effects. All the cases refractory to oral iron responded satisfactorily to intramuscular iron. Intramuscular iron was as effective as intravenous iron, although it was not so rapid in the medical series.

In 82 cases treated with intravenous iron, good responses were obtained in all except two in which treatment was discontinued because of fairly severe reactions.

Cope, E., et al., *Brit. M. J.*, 4993:638-640, 1956.

New Shampoo Treatment in Seborrhea Capitis

The introduction of selenium sulfide shampoo greatly simplified the treatment of dandruff. Its stimulation of sebaceous secretions, its occasional orange tinting of gray hair, and, in some instances, hair loss are drawbacks to its use. It is not effective for removing the oiliness so often seen in association with acne vulgaris.

A new treatment for seborrhea, is a lathering cream shampoo (Fostex Creme®), a combination of sulfoacetate, sulfonate and sulfosuccinate —all employed in dermatology for years with a record of safety.

First used every three or four days, the interval may be prolonged as results permit. Maintenance use is shampoo once a week or less often.

The treatment is claimed to be 95% effective in the control of dandruff, seborrhea oleosa and seborrheic dermatitis. In some dry scalps, it can produce excessive dryness.

Finnerty, E. F., *New England J. Med.*, 255:614-616, 1956.

Hay Fever

For mild hay fever that is troublesome but not incapacitating, antihistamines, nasal drops, eye drops, the wearing of dark glasses, and, whenever possible, the avoidance of exposure to heavy concentrations of pollen are advised.

For incapacitating hay fever which has failed to respond to this treatment, or which is accompanied by pollen asthma, preseasonal hyposensitization is advised. Expert advice is necessary. The results are excellent or good in 80%, and moderate or poor in 20%.

Cortisone and corticotropin appear to give better symptomatic relief than antihistamines. Their use is justified when all other measures have failed in cases where a complete examination (including a radiograph of the chest) has excluded those illnesses which are known to contraindicate the use of cortisone and corticotrophin.

Brit. M. J., 1984:111,1956.

Contact Dermatitis of the Hands

Contact dermatitis caused by external irritants is usually acute, resulting in redness, vesicles and swelling. Treatment should consist of wet dressings, lotions and bland ointments. An agreeable wet dressing is made by adding one ounce of aluminum acetate to one pint of cold water, another dressing is plain cow's milk. Boric acid or aluminum acetate may be added to the cow's milk. Keep the dressings wet, change frequently and leave uncovered, so that evaporation may take place.

As the subacute stage is reached, calamine lotion without phenol is usually soothing. Ointments are occasionally irritating and may cause an acute flare-up. Recently, use of Lassar's paste, which is stiffer, and mild unguents such as boric acid ointment have proved effective.

Oral administration of antihistamine may relieve itching; in most cases a placebo is just as effective.

The value of steroid hormones is doubtful. Acute dermatitis exacerbation may be caused by soap and water. Aveeno colloidal oatmeal is a good soap substitute.

Weber, L. F., *J. Iowa State M. Soc.*, 46:492-496,1956.

Ganglion-Blocking Agents in Hypertension Treatment

A report is made on results obtained in using, since January, 1955, the drug "356c54" and, since October, 1955, the drug "139c55," two active members of a recently described group of ganglion-blocking agents.

In hypertensive patients, using as a criterion of effectiveness a fall to or below 100 diastolic (sitting), the minimal effective single intravenous dose of 356c54 was 2 mg., and the maximum dose necessary was 12 mg. The minimal effective single *therapeutic* dose given subcutaneously was 10 mg., and the maximum dose found necessary was 40 mg. With 139c55, the comparable doses were half these, and the maximal subcutaneous dose used has been 27.5 mg. (Comparative blood-pressure readings were also always taken in the reclining and erect positions).

The first detectable pharmacological response occurred after a delay of 5 to 25 minutes. No immediate response occurred after an intravenous injection, irrespective of the dose

given. Usually after an interval of about six minutes, blurring of vision occurred, often with a variable degree of bradycardia. A definite fall in blood pressure occurred within another 10 minutes with a maximum fall 45 to 60 minutes later.

The advantages of the compounds, particularly 139c55, in the treatment of hypertension lie in the more gradual onset of activity, the greater duration of action, which makes treatment possible with a single or at most two daily injections, the slowing effect on the heart rate, and the relative lack of action on the small intestine.

Locket, S., *Brit. M. J.*, 4985:116-122,1956.

Treatment of Thromboembolism

The age-old practices of rest and elevation of the part in thrombophlebitis are still the most important factors in the treatment. The relief of vasospasm by heat and sympathetic ganglion block are valuable, heat aiding also in increasing the metabolism of the affected part. The use of heat is contraindicated in the presence of arterial insufficiency. Antibiotics are recommended when fever is a symptom. Anticoagulants will, in most instances, limit the clotting process and prevent embolism from either peripheral veins or the heart. Ligation of veins should be done only when anticoagulants are contraindicated, or when embolism recurs despite anticoagulant therapy — a rare occurrence.

Constrictive stockings and/or bandages help to control edema in the postphlebitic period, and they must be worn as long as swelling persists. Emboli lodging at, or proximal to, the origin of the deep brachial artery and popliteal bifurcation should, as a rule, be removed surgically. Serious effects of those occurring below these levels will usually be prevented by the use of sympathetic ganglion blocks and anticoagulants. Continuous long-term anticoagulant therapy is a safe procedure and will usually prevent the recurrence of thrombophlebitis and embolism. Patients with the postphlebitic syndrome will seldom be cured, but they may be restored to a comfortable useful life by means of rest, elevation of the part, antibiotics, anticoagulants, constrictive dressings, and sometimes skin grafting and popliteal vein ligation.

Olwin, J. H., *J.A.M.A.*, 160:1101-1105, 1956.

Constipation Due to Drug Therapy

Constipation may often be due to drugs, such as the more powerful hypotensive agents, with resultant dangerous accumulation of such drugs in the intestines. Saline cathartics, mineral oil, and bulking agents have specific disadvantages, especially in geriatric patients requiring medication over long periods of time. In these patients, gentle laxation without side effects is important in the treatment of constipation.

Malt Soup Extract, a neutralized non-diastatic barley malt extract with gentle, stool-softening properties, was used in 25 selected cases of geriatric constipation due to drug therapy. Constipation was relieved without side effects and progress was made in restoration of normal bowel action. This extract can be taken for an indefinite period without producing any pathologic changes in the intestinal tract.

Hootnick, H. L., *Geriatrics*, 4:1021-1030,1956.

briefs: SURGICAL

New Methods Essential For Cure of Breast Cancer

Several factors continue to impede progress in the therapy of breast cancer patients. At the time of diagnosis, the presence of metastasis within the internal mammary lymph node chain remains an obstacle to both irradiation and super-radical surgery.

Further solution of the problem must depend on new methods of treatment, which have yet to be discovered through research.

Cancer Bull., 8:84-86, 1956.

Fat Embolism

Most cases of fat embolism are so mild that they do not cause symptoms, and are diagnosed, if at all, in the laboratory. The typical patient with symptoms has had trauma with fractures. Symptoms rarely begin after the 5th day. Apprehension and restlessness, followed by dyspnea, pallor, sweating, and cyanosis may appear. Frothy sputum may appear, but little coughing occurs. Pain is rare.

According to Grondahl, only one of 3,000 patients with fat embolism dies, and death following fractures can be attributed to fat emboli in only 1% of the cases.

Prophylactics consist of early and proper immobilization of fractures without rough handling. Also recommended are tourniquets during, and for one hour following, the manipulation of fractures, and the ligation of the superficial or deep femoral veins for tibial or femoral fractures.

The treatment of the established syndrome consists of oxygen and supportive care, including adequate fluid and electrolyte balance and antibiotics to prevent secondary infections. Morphine and blood transfusions should be used cautiously, if at all.

Weber, L. W., *Minnesota Med.*, 39:12,775-777,1956.

Results of Mitral Commissurotomy For Mitral Stenosis

Since 1948 when the first patients with mitral stenosis were so treated, commissurotomy has become the accepted treatment.

Forty-eight patients with mitral stenosis who have had a commissurotomy have been followed from one to five years. Of these, 47 were progressively incapacitated or were in congestive failure; 36 patients had either an excellent result or were definitely improved; and 2 were unimproved. One operative death and eight late deaths were due to progressive heart disease.

Kee, J. L., Jr. et al., *Texas State J. Med.*, 52:729-734,1956.

Erroneous History of Appendectomy

An assistant track coach, 27 years of age, was admitted to a college infirmary with a gradually increasing "gnawing" pain in the area of a "healed appendectomy" scar. He stated that his appendix had been removed some 20 years previously, but that for the last two years, he had intermittently experienced a discomfort inside the scar. There was no vomiting and no diarrhea at any time. There was tenderness over the scar, borborygmi on palpation and auscultation. White cells were 14,000, 76% neutrophiles, urine neg., temperature was normal. Diagnosis of partial intestinal obstruction due to a fibrous band was considered. At operation, an acutely inflamed, ruptured appendix, with a walled-off abscess, was found. The patient made an uneventful convalescence.

History of prior appendectomy is not infallible.

Farnsworth, D. L., et al., *New England J. Med.*, 255:992-996, 1956.

Palliation of Mammary Carcinoma with Phosphoramide Drugs

A total of 122 patients with mammary carcinoma were treated with triethylenethiophosphoramide and/or oxapentamethylene for periods ranging from one to 24 months. Of these, 117 patients had extensive primary or recurrent disease. Five patients received oral chemotherapy after a radical mastectomy that revealed multiple metastatic axillary nodes. Chemotherapy was administered by intramuscular, intravenous, intrapleural, intraperitoneal, intrapericardial, intratumor and oral routes. Except with the oral route, therapy was given with few exceptions to outpatients at intervals of one to three weeks.

Prior treatment in this group included surgery, irradiation and various types of hormones. The type of previous therapy did not seem to significantly alter the response to chemotherapy. Responses to phosphoramides included healing of ulceration, regression of soft-tissue masses, control of serous cavity effusions, recalcification of bone lesions and control of signs and symptoms of central nervous system metastases. The phosphoramides are useful agents in the prolonged palliation of advanced mammary carcinoma. Because of a more predictable hematological response, triethylenethiophosphoramide is preferable to oxapentamethylene.

Carlton, H. N., *J.A.M.A.*, 162:701-706, 1956.

Viadril: A Steroid Anesthetic

Ideal anesthesia is seldom carried out with only one agent. An anesthetic consists of: 1. a basal narcotic such as thiopentone sodium, 2. a muscle relaxant such as "tubarine," and 3. an analgesic mixture of nitrous oxide and oxygen, with or without such adjuvants as trichlorethylene or pethidine.

Viadril (21 hydroxypregnane-3: 20-dione sodium succinate) telescopes the narcotic and relaxant functions and requires only minimal nitrous oxide and oxygen to maintain anesthesia. This substance is revolutionary in that it is a steroid. It bears no resemblance to any group of drugs hitherto used or contemplated for the purpose.

Lerman, L. H., *Brit. M. J.*, 4985:129-132,1956.

KUTAPRESSIN* IN RHUS DERMATITIS

New Parenteral Treatment for Poison Ivy

Unique Liver Derivative for Rapid Relief in the Poison Ivy, Poison Sumac and Poison Oak Regimen

Well known for its effectiveness in treatment of acne, urticaria and other skin disorders, KUTAPRESSIN* was found to be of great value in treatment of the common types of rhus dermatitis such as poison ivy, poison sumac and poison oak.

The poison ivy reaction is characterized by severe itching, pain and exudation. Various local applications, antipruritic and antihistaminic drugs, ACTH and Cortisone have been used previously in an attempt to control the symptoms. In many instances, however, when only the symptoms were being treated, there were recurrences of the disorder as soon as treatment was discontinued and in some, sensitivity to the drug developed.

Clinicians employing KUTAPRESSIN in treatment of ivy dermatitis found—after a single injection—vesicles and bullae were rapidly ameliorated and that itching and pain subsided. One or two additional injections resulted, in most cases, in a complete clearance of symptoms with no recurrences.

It is thought that KUTAPRESSIN acts by causing mild vasoconstriction of the dilated terminal vessels thus improving integrity and reducing permeability of these blood vessels.

Kozelka and Marshall, reporting in the May, 1956 issue of *Clinical Medicine*, state: "We believe the best current therapeusis for the adequate treatment of poison ivy dermatitis is with daily injections of Kutapressin."

KUTAPRESSIN may be given intramuscularly or subcutaneously. The usual dose is 2 cc. daily until maximum response is obtained. Some clinicians have reported that larger dosage (up to 5 cc.) gives more rapid recovery.

KUTAPRESSIN is supplied in 2 cc. ampuls, 10 cc. and 20 cc. multiple dose vials. KREMERS-URBAN COMPANY, Milwaukee 1, Wisconsin. Literature is available on your request.

*Derivative of liver which acts selectively on arterioles and capillaries without raising systemic blood pressure.

Carcinoma of the Sigmoid Arising from a Polyp

The time needed for benign polyp to assume malignant characteristics is variable and difficult to determine. Polyps or adenomas of the large intestine, if given sufficient time, develop into carcinomas. Therefore it may be said that:

1. Adenomas are precursors of malignant lesions in the colon and rectum,

2. If adequate proctoscopic removal of a colonic polyp is not possible, transabdominal removal is mandatory,

3. The consulting physician and surgeon should strongly advise the patient to have colonic polyps removed.

Mayo, C. W., et al., *Proc. Staff Meet. Mayo Clin.*, 31:597-598,1956.

Facial Palsy

The frequency of facial palsy is due largely to the long and tortuous course of the facial nerve through a small bony canal in the temporal bone. Swelling resulting in ischemia is thought to be the cause of Bell's palsy, which accounted for 62% in 557 cases of facial palsy. Injury was responsible for 15%, and a lesion at the geniculate ganglion for 7%.

By testing the ability to taste and to shed tears in a patient with facial palsy, it is often possible to differentiate between a lesion near the stylomastoid foramen, one at the geniculate ganglion, and one in the nucleus.

If all treatment, including local surgery, fails to bring about return of function, the choice will then be between facio-hypoglossal anastomosis and a facial sling procedure.

Cawthorne, T., et al., *Brit. M. J.*, 5003:1197,1956.

Hypophysectomy in Carcinomatosis

The results of hypophysectomy in carcinomatosis due to metastases from the breast and prostate are discussed. In some cases, there were dramatic effects on symptoms, particularly the pain of bony metastases. There is difficulty in determining before operation whether a growth is hormone-dependent. Up to the present time, there is not enough evidence to give a satisfactory answer, although investigations of the excretion of mammotrophic hormone in the urine might be worth while.

Only a certain proportion of breast and prostatic carcinoma are hormone-dependent, and only in these cases can visible results be obtained. Replacement therapy, after operation, with cortisone and thyroid and sometimes pitressin, is necessary in the early stages.

Smith, E. J. R., et al., *Brit. M. J.*, 4986:228-229, 1956.

Occlusion of Endotracheal Tube by Overinflated Cuff

During a lobectomy on a 62-year-old man with bronchiectasis, suddenly difficulty of operating the endotracheal tube was noted, and at the same time the patient's heart rate slowed and completely stopped. The anesthesiologist discovered that the endotracheal cuff was over-inflated and had completely occluded the distal end of the tube. After deflating the tube, the airway was reestablished and cardiac action restored by several seconds of manual massage.

After a stormy initial postoperative course, the man fully recovered.

Doane, W. A., *New York State J. Med.*, 56:24,3936, 1956.

Frequency of Urination Caused by Intestinal Infection

Symptoms of urethro-trigonitis were present in 25 to 30% of female patients attending an out-patient clinic, and this condition was vertified by urethroscopy in which characteristic changes were found present at the bladder neck. These changes arise from lesions of the cervix and genital tract, and they were found in 66% of these cases. Of the remaining 34%, a third were found to have radiologically demonstrable lesions of the large intestine. Treatment of the intestinal infection, combined with dilation and, where necessary, fulguration of the bladder neck, gives excellent results as compared with dilation and fulguration alone.

Semple, J. E., *Brit. M. J.*, 4994:696-697,1956.

Cardiac Arrest

The Cardiometer* provides a visual indicator, by means of a flashing light, of the cardiac activity and an auditory warning when cardiac activity ceases. One model of this apparatus has been built which contains, in addition to the indicating mechanisms described, a cardiac stimulator.

The stimulator, although entirely separate from and independent of the diagnostic portion of the apparatus, is powered from the same source, and only one electric wall outlet is required. The stimulating current is applied through the same electrodes. As a safeguard against the inadvertent application of the stimulating current, its switch is of the spring type that must be held manually in the "on" position.

In a very high percentage of patients in whom cardiac arrest occurs, spontaneous heart action is restored by well recognized methods. The aim of treatment is three-fold: 1. artificial maintenance of adequate circulation, 2. artificial maintenance of efficient respiratory exchange. 3. restitution of spontaneous heart beat.

Not all patients whose heart action is restored regain consciousness, a result of irreversible changes in the brain due to anoxia. A shortening of the interval between cardiac arrest and its detection must increase the restoration of heart beats and the number of patients who regain consciousness.

The purpose of this apparatus is to improve our management of cardiac arrest by shortening the interval between arrest and its diagnosis, and lessening the number of patients who have their chests opened unnecessarily.

*The Cardiometer is manufactured by the Physio-Control Corp., Seattle, Wash.

Edmark, K. W., et al., *Northwest Med.*, 55:1187-1190,1956.

Cryptorchism

During the first year of life, anticipate spontaneous descent. This failing, plan to place the testis in the scrotum *before the seventh year* unless hernia dictates earlier repair. In bilateral cryptorchism, chorionic gonadotropin should be given, provided bilateral inguinal hernias do not coexist. At seven years, 500 international units two to three times a week, for a total of 8,000-10,000 units, may be given. If hernia co-exist, and in event of failure of the gonadotropin therapy, orchiopexy should then be carried out. Little is lost by waiting three months while giving massive gonadotropin therapy.

Garrett, R. A., *J. Indiana M. A.*, 49:1055-1058, 1956.

briefs: PSYCHIATRIC

Bromide Intoxication

Bromide intoxication must still be considered in the etiological diagnosis of mental disease.

One patient's mental state deteriorated on bromides and progressed to a psychosis. The withdrawal of bromides and forcing of fluids was followed by prompt recovery.

A second patient, psychotic before bromide medication, was greatly improved following therapy for bromism, but recovery was not so prompt. A part of her improvement may have been due to Thorazine. Three weeks or more of treatment may be needed for complete clearing of the mental symptoms of bromide intoxication.

Hannigan, C. A., et al., *J. Maine M. A.*, 47:71-72, 1956.

Clinical Evaluation of a Non-Barbiturate Calming Agent

Three of the recently introduced tranquilizing preparations have an entirely different chemical structure. They are meprobamate, a propanediol dicarbamate; reserpine, an alkaloid derived from Rauwolfia serpentina; and chlorpromazine, a synthetic derivative of phenothiazine. To this group can now be added a fourth preparation, hydroxyzine (Atarax®), a piperazine-type drug that appears to have less side effects than the other compounds.

Atarax tablets, containing 10 or 25 mg. of hydroxyzine hydrochloride, were administered to 100 patients with mild to severe anxiety, depression, melancholia and hysteria. In 25% of the patients, organic diseases were diagnosed in addition to anxiety states. The dosage varied from 10 to 50 mg. three times daily, adjusted according to response.

Of the 68 patients with anxiety, 59 made moderate to excellent response, while 17 of the 24 patients with anxiety combined with organic diseases responded favorably. Psychotic patients and patients with depression, melancholia, and hysteria did not benefit from therapy. No side effects were encountered.

Endc, M., *Virginia M. Monthly*, 83:503-505,1956.

Convulsion Dependence

Some patients require convulsions more than twice a week, others less than once a month. The convulsion dependence may be: 1. transient—relapses occur unless electroconvulsion therapy is continued adequately for a short period after apparent recovery; 2. protracted — treatment is necessary for weeks or months after recovery or improvement; or 3. persistent, chronic—the patient remains dependent on electroconvulsions at regular intervals.

Bourne, H., *Lancet*, 2:1193-1196,1954.

Psychiatric Emergencies

Any patient with anorexia, loss of interest and energy, and insomnia, particularly early-morning insomnia, requires close observation. When neglect of personal appearance, preoccupation with ideas of self-depreciation, guilt and hopelessness are also manifested, be alert to the probability of suicide. Even more dangerous is the person who has been profoundly depressed and who is beginning to come out of this state. Any such patient requires hospitalization for treatment, and for prevention of suicide.

A patient with early manic psychosis feels so well that putting him in a hospital may be next to impossible. He may pass gradually from increased work capacity to agitated and aimless behavior, to a fury of excitement and exertion, and lose all contact with reality and indulge in completely asocial acts. Notable is the ease with which these persons swing from tremendous enthusiasm to deep depression and great rage, particularly from any kind of frustration. Sedatives, wet packs and electroshock are indicated.

The acute schizophrenic reaction may be destructive, or early attempt at suicide. Suspect schizophrenia in persons able to handle, without emotional distress, situations which would upset normal individuals. Question the mental status of patients in whom intense excitement is set off by stimuli which would not bother normal persons. Such an episode is a real emergency, since the patient has little or no self-control. Hospitalize as an emergency measure. Insulin therapy, electroshock, or psychotherapy may be required.

Postpartum psychosis may be depressive or schizophrenic; it may appear suddenly after a normal delivery. Symptoms usually appear four to seven days after delivery. Treatment of symptoms as outlined. Psychotherapy and/or electroshock is indicated for the psychopathology.

Arteriosclerotic changes may go unrecognized for a long time, the patient compensating for his deficit. Abrupt changes in the internal or external environment may precipitate an acute process. Impairment of memory, judgmental defects and decreased ability to comprehend, calculate and learn, and a loss of interest in personal appearance usually precede the acute break over a fairly long time. Anxiety, irritability, emotional lability, withdrawal, apathy, depression or nocturnal hallucinations are not infrequent.

The precipitating factor may be physical illness, emotional trauma or financial loss, moving from one location to another, etc.

The Psychiatric Bulletin, 5:1, 1955.

A Re-evaluation of Electrotherapy for Psychiatric Disorders

To many present-day therapists, only acute uncompensated congestive heart failure, acute myocardial infarction, severe mitral stenosis, pulmonary edema and surgical shock are considered absolute contraindications to electrotherapy.

The mortality rate has been as high as 0.8%. Osteoarthritic accidents occurred in 1.4%. In a large series of cases, vertebral fractures occurred in 1.0% of the patients treated, or 0.1% of the total number of treatments administered to 21%. The incidence of other complications has also varied widely in different hands.

For young champions...

Young champions need the help of doctors, teachers, and parents... to achieve full growth potential and physical stamina to meet the stresses of adolescent and adult life.

Boys who eat no breakfast show decreased "work rate" and "work output" during late morning hours . . . have less energy for sports . . . show less interest and ability in school work. This was demonstrated by boys whose total food intake each day remained the same during periods with and without breakfast. Protein was not as well utilized by the boys when no breakfast was eaten, even though protein intake for the day was the same in both periods.

Between-meal snacks are also important in the diets of hungry boys... often contributing as many calories as does breakfast. During adolescence emphasis should be placed on snacks of high-nutrient as well as high-energy value. Milk is such a food . . . most needed at this time when calcium requirements for growth and storage are at their peak.

Four to six cups of milk each day . . . to drink . . . used in food preparation . . . as cheese or ice cream . . . will provide the calcium needs of teen-age boys . . . and generous quantities of high grade protein and other essential nutrients.

In planning meals for hungry boys, *milk and milk products are foundation foods for good eating and good health.*

The nutritional statements made by this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

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Newer apparatus and techniques have decreased the complications, undesirable side effects and the contraindications to electrotherapy in psychiatric illnesses.

Geriatric psychiatric patients tolerate electrical treatments well, and psychopathologic changes are often reversible.

The term "electrotherapy" is more accurate and preferable to the term "electric shock treatment."

Sweel, A., *North Carolina M. J.*, 17:273-278,1956.

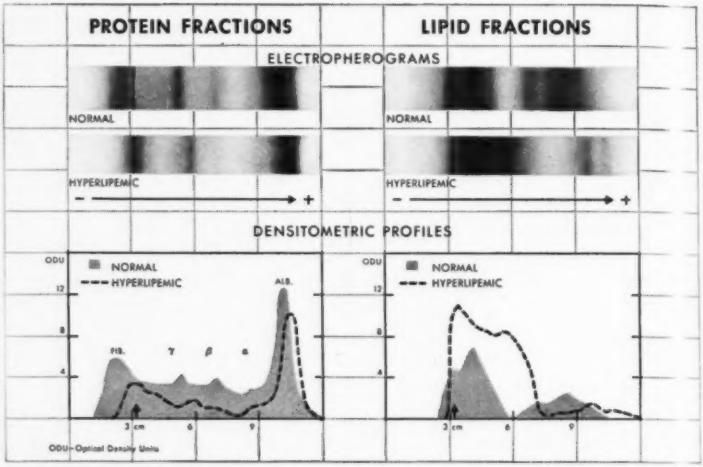
Short-Term Treatment of Psychiatric Patients With Reserpine

In the author's earlier cases, the initial dose of reserpine was 3 to 5 mg. given in one dose intramuscularly, orally, or occasionally intravenously. Thereafter, 1 or 2 mg. by mouth once a day. Later the daily dose was, from the first day, 5 to 15 mg. intramuscularly, with or without 2 to 6 mg. by mouth. Blood pressure was taken every day before, and 1 hour, 2 hours, 3 hours, and 6 hours after the medication.

The optimal dose has not been determined. Some patients improve with small doses; others do not respond to much larger doses.

Reserpine was used in the short-term treatment of 100 psychiatric patients; 58 improved. The most striking effect was the relief of tension and anxiety, resulting in improved sleep, reduction of over-activity, and the establishment of contact with the environment. The wards became more quiet; there was less need for sedation and tube feedings, and sedative packs were very rarely needed.

Payn, S. B., et al., *New York State J. Med.*, 56:1769-1773, 1956.



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Principle: **The phosphatides and phosphatide-containing complexes travel along the electrified path of the paper strip allowing identifiable protein and lipid complexes to be deposited at various points. Where the phosphatide content is insufficient, electroneutral lipids (cholesterol, neutral fat) are set free to remain at the starting point. Thus we obtain the characteristic tell-tale density zones of the electrophoretic profile.**

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Application: **Paper electrophoresis is now being used to investigate the influence of dietary supplementation with "RG" Lecithin upon lipoprotein patterns in patients with lipid metabolism disturbances.**

Glidden's "RG" Lecithin **consists of 90% natural phosphatides in dry, free-flowing granules refined from soybeans. It is the only lecithin made expressly for medically indicated dietary purposes.**

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Connective Tissue in Health And Disease

edited by G. Asboe-Hansen, M.D., Connective Tissue Research Laboratory, University Institute of Medical Anatomy, Copenhagen and Ejnar Munksgaard, Copenhagen. Philosophical Library, New York, 1957. $15.00

It has been recognized for a long time that connective tissue was inadequately named. A half-century ago one of the best textbooks of histology substituted the name supporting tissue, but it is now known that this tissue does far more than afford support to the tissues which make up vital organs. This recognition has, as the author states, been attracting increasing attention during the past 25 years; an attention that in the last decade has approached enthusiasm.

Among the chapters which have important clinical application are those entitled "Some Remarks on the Spreading Reaction, Hormonal Influence on Connective Tissue, The Connective Tissues in Wound Healing, Cortisone, Ascorbic Acid and Changes in the Reticulo-Endothelial System, Connective Tissue and Infection, Influence of Hormones on Infection, Connective Tissues and Cancer, General Consideration on Collagen Diseases, and Arthritis."

Clinical Examinations in Neurology

by Members of the Section of Neurology and Section of Physiology, Mayo Clinic and Mayo Foundation for Medical Education and Research, Rochester, Minn. W. B. Saunders Company, Philadelphia, London. 1956. $7.50

This book is written by neurologists trained by two of the greatest doctors in this field, Henry W. Woltman and Frederick P. Moersch. The book is well worthy of the teachers who made it possible, and deserves the wide popularity which it certainly will be accorded. For every doctor who wishes his reading to be shorn of all redundances, and to present all useful knowledge on the subject in the fewest possible words, here is the book on neurologic diagnosis you have long yearned for.

Allergic Dermatoses Due to Physical Agents

edited by Rudolf L. Baer, M.D., New York University Postgraduate Medical School. New York University Press, distributed by J. B. Lippincott Company, Philadelphia & Montreal. 1956. $3.00

A satisfactory coverage of this limited subject.

The Physician-Writer's Book—Tricks of the Trade of Medical Writing

by Richard M. Hewitt, A.M., M.D., Mayo Foundation and University of Minnesota. W. B. Saunders Co., Philadelphia & London. 1957. $9.00

An excellent book from which the physician with an adequate knowledge of grammar may learn how to approach the subject of medical writing, and how to bring this endeavor to a successful conclusion. Appendices add greatly to the value of the main text in many important ways, principally by citing horrible examples.

Notes on Atomic Energy For Medical Officers

by The Royal Naval Medical School, Alverstoke, Hampshire, England. Philosophical Library, New York, N. Y. 1956. $4.75

An introduction to the subject for Service and other Medical Officers concerned with defense against atomic bombs and similar problems.

Every doctor will be interested in this opportunity to obtain authoritative information on this subject of vital interest to all, presented without waste of words. A glossary giving the meanings of new and very unusual words is included.

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